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TABLES OF PROBABILITY OF DAMAGE CALCULATIONS FOR POINT AND CIRC--ETC(U)

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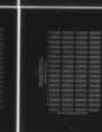
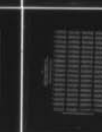


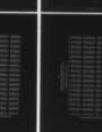
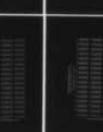






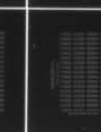







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# TABLES OF PROBABILITY OF DAMAGE CALCULATIONS FOR POINT AND CIRCULAR NORMAL AREA TARGETS

Science Applications, Inc.  
1200 Prospect Street  
La Jolla, California 92037

19 July 1976

Topical Report

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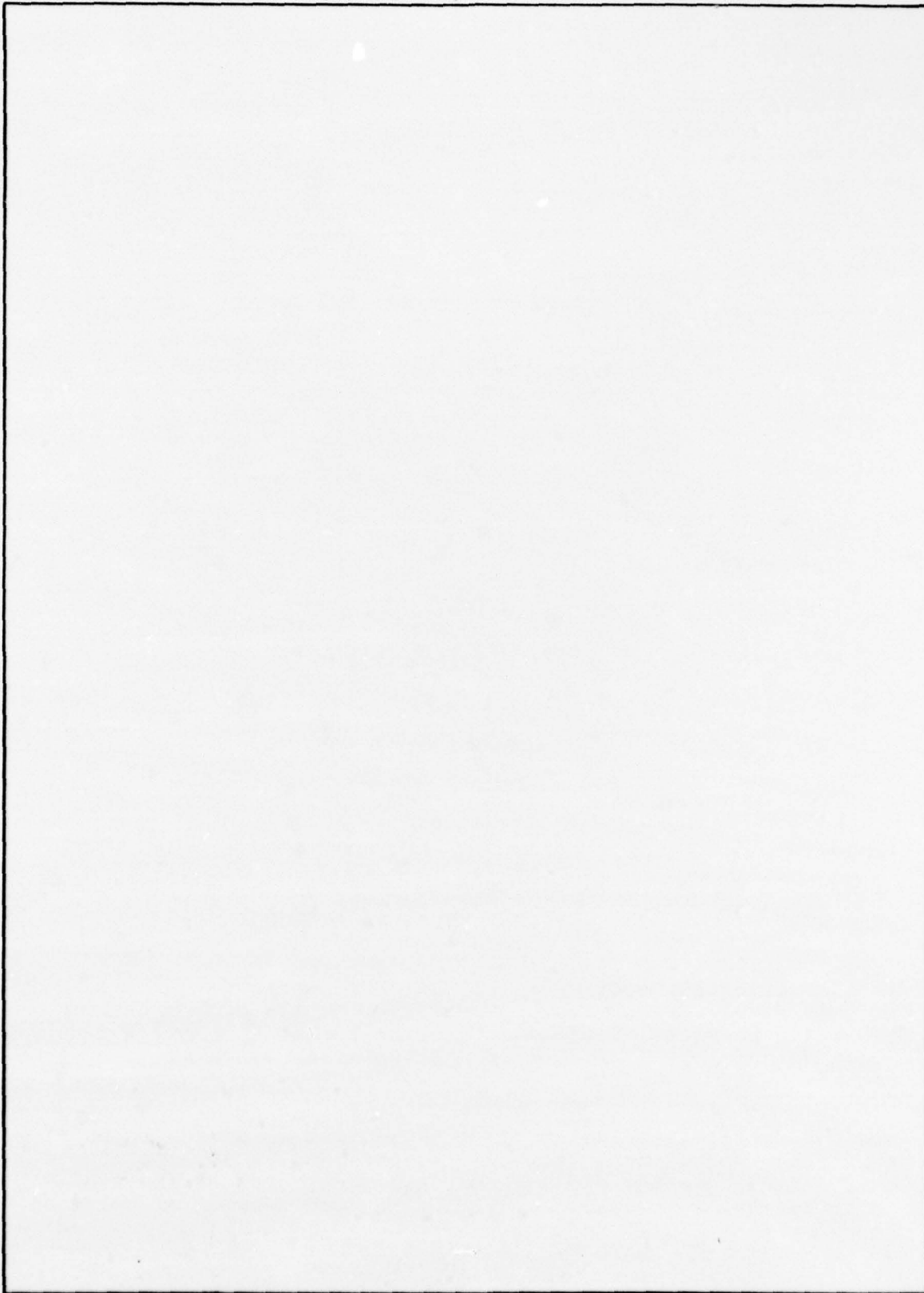
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## SECTION I

### INTRODUCTION

This report contains tables of probabilities of damage to point or circular normal area targets using the cumulative log-normal damage function. The probability of damage for such a target is a combination of three probabilities: the probability that a target receives at least a certain amount of damage (called the distance damage function); the distribution of weapon impact points (CEP); and the density of the target area (R95). In order to easily evaluate the combined probabilities, we utilize analytic approximations for these separate distributions. The complement of the cumulative lognormal function is used as the analytic approximation to the distance damage function, and the circular normal function represents the joint density of the impact distribution and the target density.

Prior to 1972, the distance damage function was described by a circular normal distribution. The joint distribution of the distance damage function, impact distribution and target density was referred to as the circular coverage function.<sup>1</sup> Tabular evaluations of the circular coverage function had been in use for many years.<sup>2</sup> However, since 1972, the complement of the cumulative lognormal function has been used to approximate the damage function.<sup>3</sup> In adapting this approximation for use at Science Applications, Inc., adequate evaluations for comparison and verification could not be located. Consequently, these tables were produced for this purpose. The following pages give a brief description of the geometrical meaning and mathematical background of the tables and a brief discussion concerning the formulation and use of the tables. A more detailed explanation of the mathematical background and programming techniques used to generate these tables can be found in Reference 3.

<sup>1</sup> H.H. Germond, "The Circular Coverage Function", Project RAND Research Memorandum RM-330, The Rand Corporation, 26 January 1950.

<sup>2</sup> "Offset Circle Probabilities", R-234, The Rand Corporation, 14 March 1952.

<sup>3</sup> "Mathematical Background and Programming Aids for the Physical Vulnerability System for Nuclear Weapons", DI-550-27-74, Defense Intelligence Agency, 1 November 1974.



## SECTION II

### PROBABILITY OF DAMAGE ANALYSIS

This Section gives a geometrical interpretation and a mathematical definition of the problem at hand. It is drawn largely from Reference 3 and unpublished material by the authors.

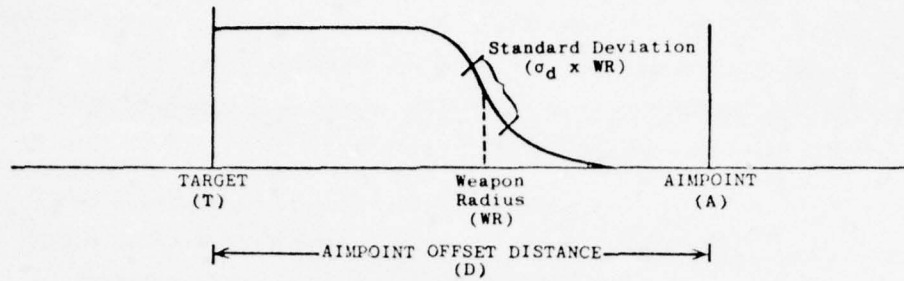
The basic problem is to calculate the probability of target damage from a single weapon. If the target has an extended area, the probability of damage is replaced by the expected fraction of the target damaged. In this report, the term "probability of damage" is used for both point and extended area targets. The solution of this problem requires the integration of three independent probability distributions--the distance damage function, the weapon impact distribution and the target density distribution. The distance damage function is represented by the complement of the cumulative lognormal function. The weapon impact distribution and the target density are represented by the circular coverage function. A geometric interpretation follows:

Assume that a weapon is aimed at point A, which is offset from the target T the distance D, as shown in Figure 1. The distance damage function is defined by the weapon radius (WR) and the distance damage sigma ( $\sigma_d$ ) (see Figure 1A). WR is the radius of a circle centered at the impact point that contains as much area inside that is undamaged to a specified level as there is damaged outside.  $\sigma_d$  is the standard deviation of the distance damage function divided by the weapon radius. Analytically, we approximate  $P_d$ , the distance damage function by the complement of the cumulative lognormal function as

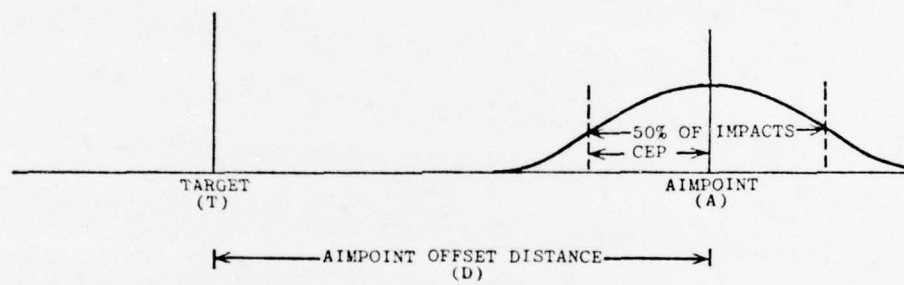
$$P_d(r) = \int_{-\infty}^{z(r)} \frac{1}{\sqrt{2\pi}} e^{-y^2/2} dy = .5 \left( 1 + \frac{|z|}{z} \operatorname{erf} \left( \frac{|z|}{\sqrt{2}} \right) \right)$$

$$z(r) = \frac{1}{\beta} \ln \left( \frac{WR}{r} e^{-\beta^2} \right)$$

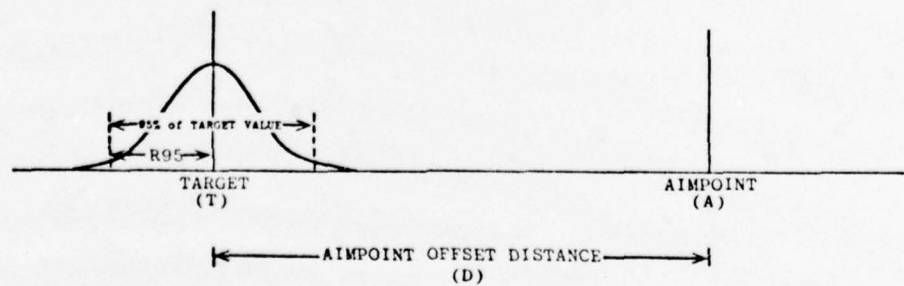
$$\beta = \left( -\ln \left( 1 - \sigma_d^2 \right) \right)^{1/2}$$



A. Distance Damage Function



B. Impact Distribution



C. Target Value Distribution

Figure 1. Probability of Damage Distribution Functions

Using the distance damage function, we can calculate an average probability of damage to a point target for each detonation point by weighting  $P_d$  by the probability that the weapon lands at that detonation point, called the impact distribution.

The circular normal impact distribution is depicted graphically in Figure 1B. It is defined by the Circular Error Probable (CEP), which is a circle about the aimpoint which contains 50 percent of the impacts. The probability that a weapon will impact within a distance  $R \leq r \leq R + \Delta R$  of a target  $T$ , assuming an aimpoint offset of  $D$  is:

$$f(r) = \int_0^{2\pi} \frac{1}{2\pi\sigma_{\text{CEP}}^2} e^{-\left(\rho^2/2\sigma_{\text{CEP}}^2\right)} d\theta \quad R \leq r \leq R + \Delta R$$

$$\rho^2 = R^2 + D^2 - 2RD \cos \theta$$

$$\sigma_{\text{CEP}} = \text{CEP} / \sqrt{2 \ln 2}$$

If we have an extended area target, we must consider the target density distribution. It is illustrated in Figure 1C and is also assumed to be a circular normal distribution. It is defined by the R95 radius which is a circle centered at the target which contains 95 percent of the target value distribution. Since the target density  $f(t)$  and the delivery error  $f(r)$  are independent normal distributions, the joint distribution is  $f(r,t) = f(r) \cdot f(t)$ , and it is referred to as a circular normal distribution. Also, the variances can be combined as  $\sigma_a^2 = \sigma_t^2 + \sigma_{\text{CEP}}^2$ , where  $\sigma_a^2$  is the variance of the joint distribution. Hence,

$$\text{CEP}_a = \left( \text{CEP}^2 + \frac{\ln 2}{\ln 20} \cdot R95^2 \right)^{1/2}.$$

To find the probability of achieving the desired level of damage,  $PD$ , to the specified target  $T$ , we must integrate all three distributions:

$$PD = \int_0^{\infty} P_d(r) f(r) dr.$$

This representation assumes that  $\sigma_a^2$  replaces  $\sigma_{CEP}^2$  in the  $f(r)$  equation shown above.



# SECTION III

## TABULAR RESULTS

This section explains how to use the tables. It includes a nomograph which tells when and how to replace CEP with the adjusted CEP ( $CEP_a$ ) in order to account for distributed area targets. It also explains the organization of the tables in terms of the parameters used and gives several examples. Finally, it discusses the table limits as certain variables increase without limit.

### 3.1 USE OF ADJUSTED CEP

No CEP adjustment is necessary for point targets. For circular normal distributed area targets, the target density distribution can be included by adjusting the CEP as explained in Section 2. The exact equation for the adjusted  $CEP_a$  is:

$$\begin{aligned} CEP_a &= \left[ CEP^2 + \frac{\ln 2}{\ln 20} (R95 * 6076.1155)^2 \right]^{1/2} \\ &= \left[ CEP^2 + 8542294 * R95^2 \right]^{1/2} \end{aligned}$$

The " $\ln 2 / \ln 20$ " term converts the 95th percentile of the R95 distribution to the 50th percentile used for CEP. The "6076.1155" factor converts nautical miles to feet.

As can be seen by the equation,  $CEP_a$  is composed of two terms, CEP and R95. Usually one or the other of these terms dominate. Figure 2A shows the limits of  $CEP_a$  for a wide range of values of CEP and R95. The diagonal line is for an R95 of zero and  $CEP_a$  equals CEP. The vertical lines are for when R95 dominates and  $CEP_a$  equals R95 times 2923. Also indicated are nomographs (Figures 3 and 4) from which one can obtain more precise values of  $CEP_a$ , given CEP and R95. Figure 2B shows when to use the nomographs and when to use the approximations. The boundaries were chosen to ensure an accuracy of at least .01 in the final probability of damage (PD) result.

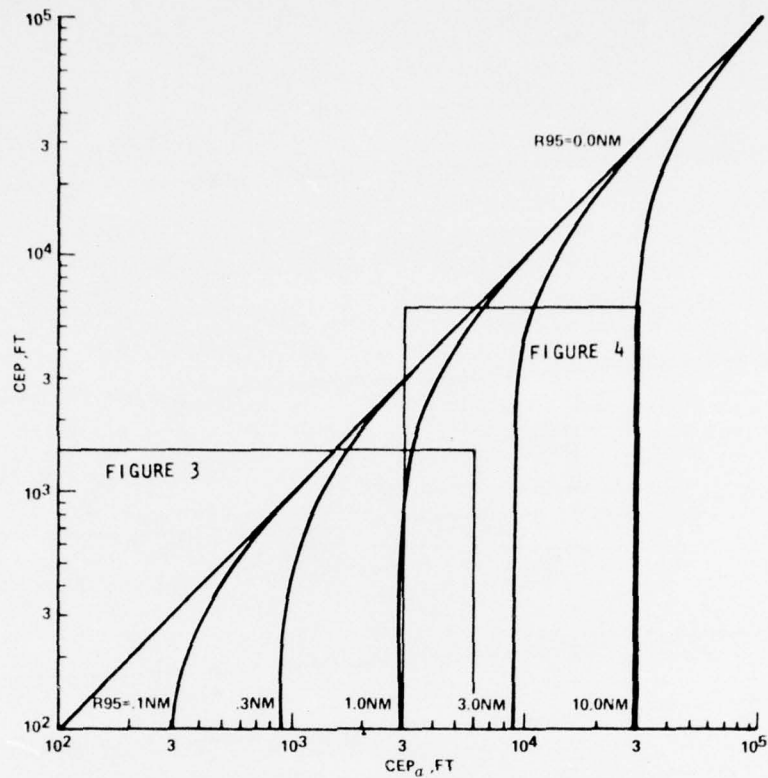


FIGURE 2A LIMITS OF  $CEP_a$

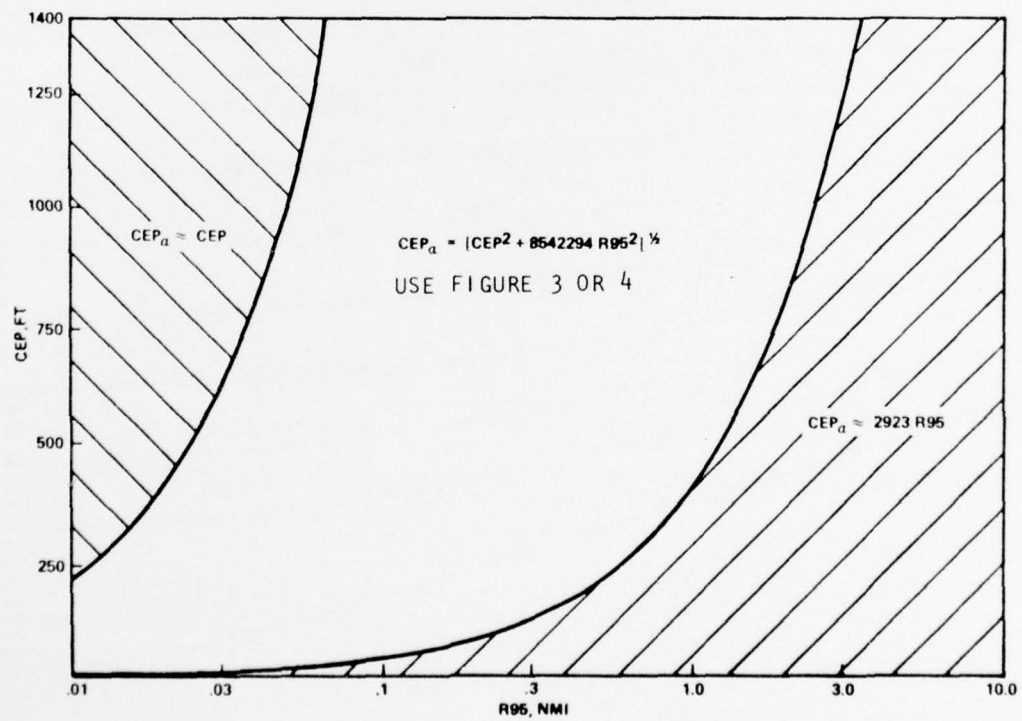


FIGURE 2B BOUNDING VALUES OF  $CEP_a$

Figure 2. Evaluation of  $CEP_a$

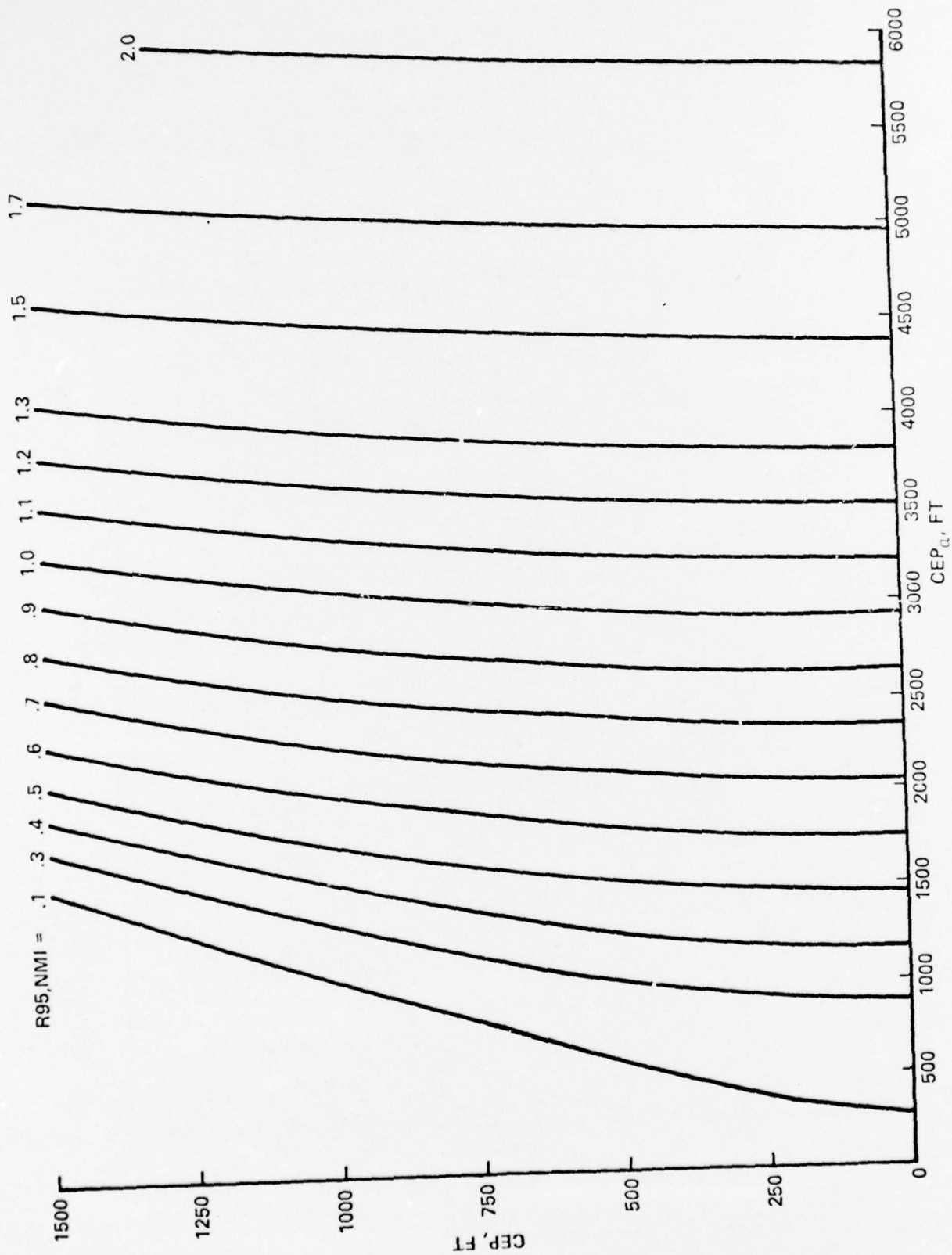


FIGURE 3 CEP<sub>q</sub> AS A FUNCTION OF CEP AND R95 - SMALL SCALE

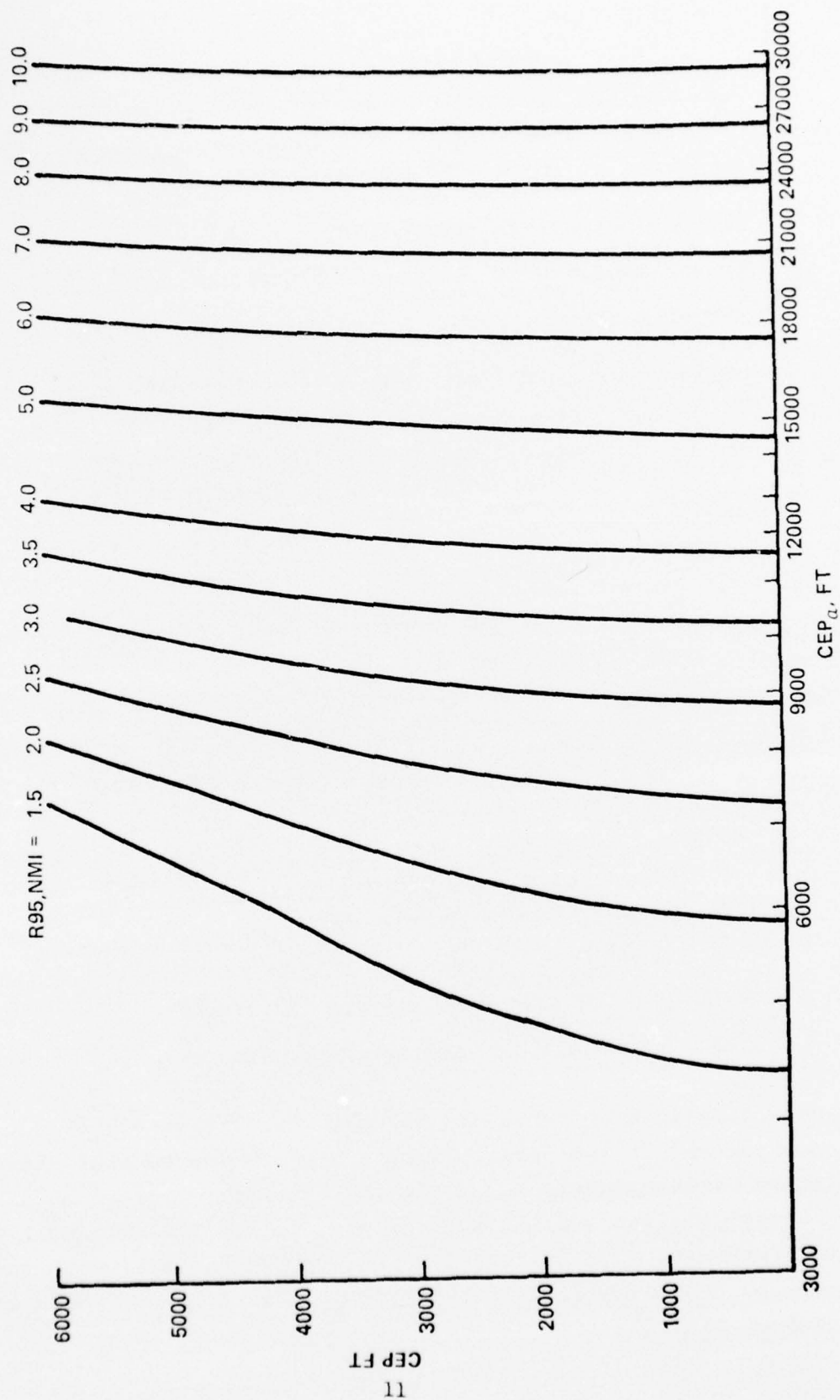


FIGURE 4 CEP<sub>a</sub> AS A FUNCTION OF CEP AND R95 - LARGE SCALE



### 3.2 TABLE ORGANIZATION

As explained in Section 2, in order to determine the probability of damage (PD) to a point or circular normal area target, it is necessary to integrate over three distributions. These distributions are represented by the following parameters:

Distance Damage Function:  $WR, \sigma_d$

Weapon Impact Distribution:  $CEP, D$

Target Density:  $R95$

As mentioned above, the  $CEP$  and  $R95$  can be combined as the adjusted  $CEP_a$ , leaving us with four parameters ( $WR, \sigma_d, CEP_a, D$ ). By normalizing one of the parameters and by using separate tables for discrete values of  $\sigma_d$  we reduce the presentation format to double-entry tables of  $PD$ .

#### 3.2.1 Standard Parameter Set

The probability of damage (PD) to a point or circular normal area target has been evaluated as a function of  $WR/CEP_a$  versus  $D/WR$ .  $WR$  is the weapon radius,  $CEP_a$  the circular error probable of the joint distribution of the target density and the impact distribution,  $\sigma_d \times WR$  the standard deviation of the distance damage function, and  $D$  the offset distance from the aimpoint to the target. The standard data set is chosen as follows:

$\sigma_d$ : 10, 20, 30, 40, 50% of  $WR$

$CEP_a$ : 1000 feet

$WR/CEP_a$ : 0.0 - 20.0 in varying intervals

$D/WR$ : 0.0 - 4.8 in varying intervals.

$PD$  has been tabulated in terms of  $WR/CEP_a$  to eliminate  $CEP_a$  as a table input variable. The intervals have been chosen so that linear interpolation between tabulated values will give three digit accuracy ( $\pm 0.002$ ). Interpolation between tables of  $\sigma_d$  is not recommended as the accuracy is unknown. The upper bounds on  $WR/CEP_a$  and  $D/WR$  were chosen to exhibit  $PD$  approaching definite limits. These limits are discussed in Section 3.4.

### 3.3 USE OF TABLES - EXAMPLE PROBLEMS

#### 3.3.1 Example 1 - Point Target

A single bomb with a weapon radius of 2500 feet is aimed at a point 2000 feet from a point target. The weapon has a 1000 foot CEP accuracy and the standard deviation of the distance damage function sigma is thirty percent (30%) of the weapon radius. Hence,

$$\text{CEP} = 1000 \text{ feet}$$

$$D = 2000 \text{ feet}$$

$$\text{WR} = 2500 \text{ feet}$$

$$\sigma_d = 30\% \text{ of WR}$$

$$\text{R95} = 0$$

$$\text{CEP}_a = \text{CEP} = 1000 \text{ feet}$$

$$\text{WR}/\text{CEP}_a = 2500/1000 = 2.5$$

$$D/\text{WR} = 2000/2500 = 0.8$$

hecking the table for  $\sigma_d = 30\%$  of WR (page 36), we obtain.

$$\text{PD} = .5572$$

#### 3.3.2 Example 2 - Area Target

A weapon is aimed at a point 8000 feet away from the center of a circular normal distributed area whose R95 radius is one nautical mile. The weapon radius is 6.4 Kft and the distance damage function sigma is forty percent (40%) of the weapon radius. The CEP is 1300 ft. Hence,

$$\text{CEP} = 1300 \text{ feet}$$

$$D = 8000 \text{ feet}$$

$$\text{WR} = 6400 \text{ feet}$$

$$\sigma_d = 40\% \text{ of WR}$$

$$\text{R95} = 1 \text{ n.mi.}$$

$$\text{CEP}_a = \left[ 1300^2 + 8542294(1^2) \right]^{1/2} = 3200 \text{ feet}$$

$$\text{WR}/\text{CEP}_a = 6400/3200 = 2.0$$

$$D/\text{WR} = 8000/6400 = 1.25$$

Checking the table for  $\sigma_d = 40\%$  of WR (page 46), we obtain:

$$PD = .2201$$

### 3.3.3 Example 3 - Table Interpolation

In example 1, assume that the weapon radius is changed to 3000 feet and the CEP to 900 feet. Hence,

$$CEP = 900 \text{ feet}$$

$$D = 2000 \text{ feet}$$

$$WR = 3000 \text{ feet}$$

$$\sigma_d = 30\% \text{ of WR}$$

$$R95 = 0$$

$$CEP_a = CEP = 900 \text{ feet}$$

$$WR/CEP_a = 3000/900 = 3 \frac{1}{3}$$

$$D/WR = 2000/3000 = \frac{2}{3}$$

To find PD we must use double linear interpolation between the table entries from page 38.

		WR/CEP <sub>a</sub>		
		3.20	3 1/3	3.40
		C <sub>1</sub>	B	C <sub>2</sub>
D/WR	.66 D <sub>1</sub>	.7214 T <sub>11</sub>	B <sub>1</sub>	.7320 T <sub>12</sub>
	2/3 A	A <sub>1</sub>	PD	A <sub>2</sub>
	.68 D <sub>2</sub>	.7037 T <sub>21</sub>	B <sub>2</sub>	.7139 T <sub>22</sub>

Given the data in the table above, there are two equivalent ways to find the desired answer, PD. We can solve for  $A_1$  and  $A_2$  and then interpolate for PD, or we can solve for  $B_1$  and  $B_2$  and then PD. Both methods are shown below.

#### Interpolation Method A

$$\begin{aligned} A_1 &= T_{11} + (T_{21} - T_{11}) \left[ (A - D_1) / (D_2 - D_1) \right] \\ &= .7214 + (.7037 - .7214) [.00667 / .0200] \\ &= .715 \end{aligned}$$

$$\begin{aligned} A_2 &= T_{12} + (T_{22} - T_{12}) \left[ (A - D_1) / (D_2 - D_1) \right] \\ &= .7320 + (.7139 - .7320) [.00667 / .0200] \\ &= .726 \end{aligned}$$

$$\begin{aligned} PD &= A_1 + (A_2 - A_1) \left[ (B - C_1) / (C_2 - C_1) \right] \\ &= .715 + (.726 - .715) [.133 / .200] \\ &= .722 \end{aligned}$$

#### Interpolation Method B

$$\begin{aligned} B_1 &= T_{11} + (T_{12} - T_{11}) \left[ (B - C_1) / (C_2 - C_1) \right] \\ &= .7214 + (.7320 - .7214) [.133 / .200] \\ &= .728 \end{aligned}$$

$$\begin{aligned} B_2 &= T_{21} + (T_{22} - T_{21}) \left[ (B - C_1) / (C_2 - C_1) \right] \\ &= .7037 + (.7139 - .7037) [.133 / .200] \\ &= .710 \end{aligned}$$

$$\begin{aligned} PD &= B_1 + (B_2 - B_1) \left[ (A - D_1) / (D_2 - D_1) \right] \\ &= .728 + (.710 - .728) [.00667 / .0200] \\ &= .722 \end{aligned}$$



### 3.3.4 Example 4 - Required Offset Distance for Given PD

In example 2, assume that it is desired to restrict the damage to the area target to no more than ten percent (10%). What is the required aimpoint offset distance?

$$\text{CEP} = 1300 \text{ feet}$$

$$\text{WR} = 6400 \text{ feet}$$

$$\sigma_d = 40\% \text{ of WR}$$

$$\text{R95} = 1 \text{ n.mi.}$$

$$\text{PD} \leq 0.10$$

$$\text{CEP}_a = \left[ 1300^2 + 8542294(1^2) \right]^{1/2} = 3200 \text{ feet}$$

$$\text{WR}/\text{CEP}_a = 6400/3200 = 2.0$$

We must now interpolate in the table on page 46 to find the value of D/WR which will give PD = 0.10.

PD	.1120 $P_1$	.1000 $P_A$	.0991 $P_2$
D/WR	1.55 $D_1$	?? $D_A$	1.60 $D_2$

$$\begin{aligned} D_A &= D_1 + (D_2 - D_1) \left[ (P_A - P_1) / (P_2 - P_1) \right] \\ &= 1.55 + .05 \left[ (.10 - .1120) / (.0991 - .1120) \right] \\ &= 1.5965 \end{aligned}$$

$$D = D_A * \text{WR} = 1.5965 * 6400 = 10218 \text{ feet}$$

### 3.4 LIMITS OF TABULAR EVALUATIONS

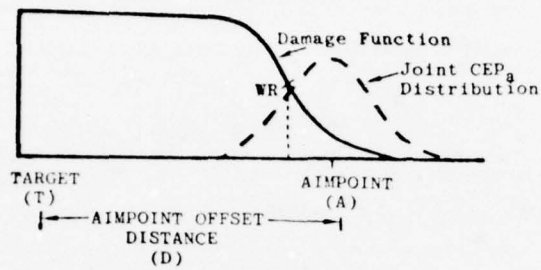
As mentioned in Section 3.2.1, the upper bounds on the table entries for  $WR/CEP_a$  and  $D/WR$  were chosen to show PD approaching definite limits as  $WR$ ,  $CEP_a$ , and  $D$  increase/decrease without limit. In particular, the limit of PD as  $WR/CEP_a$  goes to infinity is the distance damage function and the limit of PD as  $D/WR$  goes to infinity is zero. A geometrical explanation of these limits is given below.

#### 3.4.1 Limit of PD Along Horizontal Axis

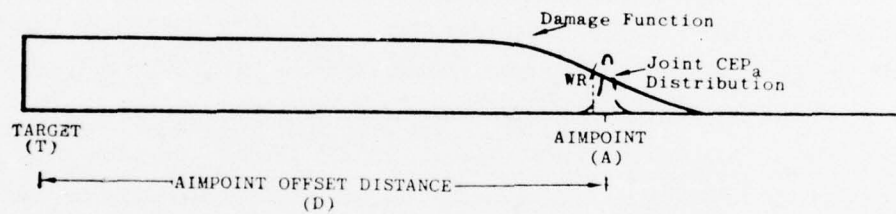
Consider the variation in PD as  $WR/CEP_a$  increases while  $D/WR$  remains constant. Assume  $CEP_a$  is a constant, so only  $WR$  is increasing as  $WR/CEP_a$  increases. Since  $D/WR$  maintains a constant value,  $D$  is also increasing as  $WR$  increases. Since  $D$  and  $WR$  are both increasing while  $CEP_a$  remains constant, eventually the distance damage function dominates the circular normal distribution, as illustrated in Figure 5A,B. Notice that the distance damage function decreases more gradually for a larger  $WR$ . This causes the circular normal distribution to be centered over a smaller and smaller portion of the damage curve. Consequently, PD goes to  $P_d$  as  $WR/CEP_a$  increases and  $D/WR$  remains constant. This effect is evident in the tabular results.

#### 3.4.2 Limit of PD Along Vertical Axis

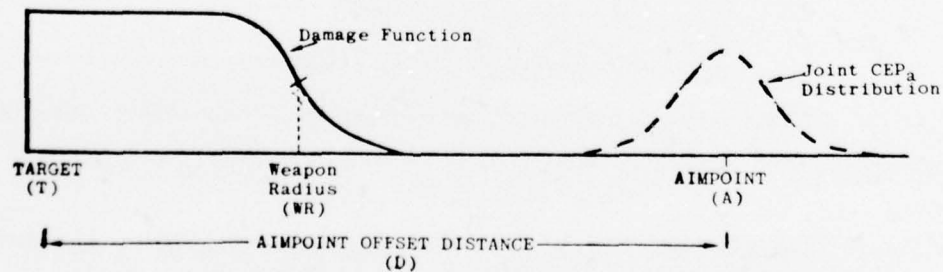
Consider the limit of PD as the offset distance  $D$  increases while  $WR/CEP_a$  remain constant. Since  $WR$  remains constant,  $D/WR$  increases as the offset distance increases. Eventually, the aim-point A becomes so far offset from the target that the weapon does not interact with the target as shown in Figure 5C. In other words, the probability of damage to the target is 0; that is, PD goes to 0 as  $D/WR$  increases while  $WR/CEP_a$  remains constant. Graphically, as  $D$  increases the distributed values become separated so the probability of damage to the target decreases and becomes 0.



A. Initial Conditions



B. Limit as  $WR, D \rightarrow \infty$ ;  $D/WR$  Constant



C. Limit as  $D \rightarrow \infty$ ;  $WR, CEP_a$  Constant

Figure 5. Limits of Tabular Evaluations

## APPENDIX

### TABLES OF OFFSET CIRCLE PROBABILITIES

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A1

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA( $\sigma_D$ ) = 10% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.70	0.80	0.90	1.00
0.00	.0017	.0069	.0155	.0273	.0424	.0604	.0813	.1047	.1306	.1586	.1884	.2198	.2663	.3557	.4260	.4952
0.10	.0017	.0069	.0155	.0273	.0423	.0604	.0812	.1046	.1304	.1583	.1881	.2194	.2655	.3545	.4242	.4928
0.20	.0017	.0069	.0155	.0273	.0423	.0603	.0810	.1043	.1299	.1576	.1870	.2179	.2631	.3508	.4190	.4858
0.30	.0017	.0069	.0154	.0272	.0421	.0598	.0802	.1038	.1291	.1563	.1853	.2156	.2591	.3447	.4104	.4744
0.40	.0017	.0069	.0154	.0272	.0421	.0598	.0802	.1038	.1279	.1546	.1828	.2123	.2536	.3363	.3986	.4588
0.50	.0017	.0069	.0154	.0271	.0419	.0595	.0796	.1029	.1264	.1524	.1798	.2091	.2467	.3259	.3839	.4394
0.60	.0017	.0069	.0154	.0271	.0417	.0591	.0789	.1009	.1246	.1498	.1761	.2052	.2381	.3136	.3667	.4168
0.70	.0017	.0069	.0154	.0270	.0415	.0586	.0781	.0995	.1235	.1468	.1719	.1975	.2291	.2996	.3473	.3915
0.80	.0017	.0069	.0153	.0269	.0412	.0581	.0772	.0980	.1215	.1433	.1671	.1911	.2207	.2842	.3262	.3641
0.90	.0017	.0069	.0153	.0267	.0409	.0573	.0761	.0962	.1175	.1353	.1618	.1841	.2175	.2677	.3037	.3353
1.00	.0017	.0069	.0152	.0266	.0406	.0569	.0749	.0943	.1146	.1354	.1562	.1766	.2155	.2504	.2804	.3037
1.20	.0017	.0068	.0152	.0264	.0402	.0561	.0737	.0923	.1115	.1310	.1501	.1687	.2030	.2325	.2567	.2739
1.40	.0017	.0068	.0151	.0263	.0399	.0554	.0723	.0908	.1092	.1263	.1436	.1604	.1901	.2143	.2329	.2464
1.60	.0017	.0068	.0150	.0261	.0396	.0549	.0718	.0898	.1078	.1248	.1413	.1572	.1817	.1962	.2095	.2178
1.80	.0017	.0068	.0149	.0260	.0394	.0546	.0714	.0888	.1063	.1228	.1394	.1551	.1751	.1868	.1945	.1985
2.00	.0017	.0067	.0148	.0259	.0392	.0543	.0710	.0880	.1050	.1211	.1372	.1525	.1709	.1799	.1846	.1878
2.20	.0017	.0067	.0147	.0258	.0391	.0541	.0707	.0874	.1041	.1198	.1355	.1505	.1665	.1731	.1755	.1777
2.40	.0017	.0067	.0146	.0257	.0389	.0539	.0704	.0868	.1032	.1186	.1340	.1485	.1629	.1681	.1702	.1722
2.60	.0017	.0066	.0145	.0256	.0388	.0537	.0701	.0863	.1024	.1176	.1327	.1468	.1607	.1655	.1673	.1691
2.80	.0017	.0066	.0144	.0255	.0386	.0535	.0698	.0858	.1017	.1167	.1316	.1454	.1588	.1633	.1649	.1665
3.00	.0017	.0065	.0143	.0254	.0385	.0533	.0695	.0854	.1012	.1161	.1308	.1444	.1575	.1617	.1632	.1647
3.20	.0017	.0064	.0142	.0253	.0384	.0531	.0692	.0850	.1007	.1155	.1301	.1435	.1563	.1603	.1617	.1631
3.40	.0017	.0064	.0141	.0252	.0383	.0529	.0689	.0846	.1002	.1149	.1294	.1426	.1551	.1589	.1602	.1615
3.60	.0017	.0063	.0140	.0251	.0382	.0527	.0687	.0843	.1000	.1146	.1290	.1420	.1543	.1579	.1591	.1604
3.80	.0017	.0063	.0139	.0250	.0381	.0525	.0685	.0840	.9997	.1143	.1286	.1414	.1535	.1569	.1580	.1592
4.00	.0017	.0062	.0138	.0249	.0380	.0523	.0683	.0837	.9994	.1140	.1282	.1409	.1528	.1561	.1571	.1582
4.50	.0017	.0060	.0136	.0246	.0376	.0518	.0675	.0828	.9988	.1134	.1275	.1399	.1516	.1547	.1556	.1566
5.00	.0017	.0058	.0133	.0243	.0372	.0514	.0670	.0822	.9981	.1127	.1267	.1389	.1504	.1534	.1543	.1553
5.50	.0017	.0056	.0130	.0240	.0369	.0510	.0665	.0816	.9974	.1120	.1259	.1379	.1492	.1521	.1530	.1540
6.00	.0016	.0054	.0128	.0238	.0366	.0506	.0661	.0811	.9967	.1113	.1251	.1370	.1482	.1511	.1520	.1530
6.50	.0016	.0052	.0126	.0236	.0364	.0504	.0658	.0807	.9960	.1106	.1243	.1361	.1472	.1501	.1510	.1520
7.00	.0016	.0049	.0124	.0234	.0362	.0502	.0655	.0804	.9953	.1100	.1236	.1353	.1463	.1492	.1501	.1510
7.50	.0016	.0047	.0122	.0232	.0360	.0500	.0652	.0800	.9946	.1093	.1228	.1344	.1453	.1482	.1491	.1500
8.00	.0015	.0044	.0120	.0230	.0358	.0498	.0648	.0795	.9939	.1086	.1220	.1335	.1444	.1473	.1482	.1491
8.50	.0015	.0042	.0118	.0228	.0356	.0495	.0645	.0792	.9932	.1080	.1213	.1327	.1436	.1465	.1474	.1483
9.00	.0015	.0039	.0116	.0226	.0354	.0493	.0642	.0789	.9925	.1073	.1205	.1319	.1428	.1457	.1466	.1475
9.50	.0015	.0037	.0114	.0224	.0352	.0491	.0640	.0786	.9918	.1066	.1197	.1311	.1420	.1449	.1458	.1467
INFINITY	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



A1  
OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 10% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	
	0.60	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
0.60	56.16	6.241	6.816	7.336	7.797	8.199	85.44	88.36	90.80	92.80	94.42	95.72	96.75	97.55	98.17	98.65	
0.65	56.69	6.252	6.806	7.324	7.784	8.186	85.31	88.23	90.66	92.67	94.30	95.61	96.65	97.47	98.10	98.59	
0.70	57.22	6.263	6.817	7.335	7.795	8.197	85.18	88.10	90.53	92.54	94.17	95.48	96.52	97.39	98.02	98.51	
0.75	57.75	6.274	6.828	7.346	7.806	8.208	85.05	87.97	90.40	92.41	94.04	95.35	96.39	97.26	97.89	98.38	
0.80	58.28	6.285	6.840	7.357	7.817	8.219	84.92	87.84	90.27	92.28	93.91	95.22	96.26	97.13	97.76	98.25	
0.85	58.81	6.296	6.851	7.368	7.828	8.230	84.79	87.71	90.14	92.15	93.78	95.09	96.13	97.00	97.63	98.12	
0.90	59.34	6.307	6.862	7.379	7.839	8.241	84.66	87.58	90.01	92.02	93.65	94.96	96.00	96.87	97.50	97.99	
0.95	59.87	6.318	6.873	7.390	7.850	8.252	84.53	87.45	89.88	91.89	93.52	94.83	95.87	96.74	97.37	97.86	
1.00	60.40	6.329	6.884	7.401	7.861	8.263	84.40	87.32	89.75	91.76	93.39	94.70	95.74	96.61	97.24	97.73	
1.05	60.93	6.340	6.895	7.412	7.872	8.274	84.27	87.19	89.62	91.63	93.26	94.57	95.61	96.48	97.11	97.60	
1.10	61.46	6.351	6.906	7.423	7.883	8.285	84.14	87.06	89.49	91.50	93.13	94.44	95.48	96.35	96.98	97.47	
1.15	61.99	6.362	6.917	7.434	7.894	8.296	84.01	86.93	89.36	91.40	93.03	94.34	95.38	96.25	96.88	97.37	
1.20	62.52	6.373	6.928	7.445	7.905	8.307	83.88	86.80	89.23	91.30	92.93	94.24	95.28	96.15	96.78	97.27	
1.25	63.05	6.384	6.939	7.456	7.916	8.318	83.75	86.67	89.10	91.20	92.83	94.14	95.18	96.05	96.68	97.17	
1.30	63.58	6.395	6.950	7.467	7.927	8.329	83.62	86.54	88.97	91.10	92.73	94.05	95.09	95.96	96.59	97.08	
1.35	64.11	6.406	6.961	7.478	7.938	8.340	83.49	86.41	88.84	91.00	92.63	93.95	95.00	95.87	96.50	96.99	
1.40	64.64	6.417	6.972	7.489	7.949	8.351	83.36	86.28	88.71	90.90	92.53	93.85	94.91	95.78	96.41	96.90	
1.45	65.17	6.428	6.983	7.500	7.960	8.362	83.23	86.15	88.58	90.80	92.43	93.75	94.82	95.69	96.32	96.81	
1.50	65.70	6.439	6.994	7.511	7.971	8.373	83.10	86.02	88.45	90.70	92.33	93.65	94.73	95.60	96.23	96.72	
1.55	66.23	6.450	7.005	7.522	7.982	8.384	82.97	85.89	88.32	90.60	92.23	93.55	94.64	95.51	96.14	96.63	
1.60	66.76	6.461	7.016	7.533	7.993	8.395	82.84	85.76	88.19	90.50	92.13	93.45	94.55	95.42	96.05	96.54	
1.65	67.29	6.472	7.027	7.544	8.004	8.406	82.71	85.63	88.06	90.40	92.03</						

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

22

### OFFSET CIRCLE PROBABILITIES

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A1

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 10% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	
	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60	
OFFSET DISTANCE/WEAPON RADIUS (D/WR)	1.14	.2831	.2771	.2709	.2645	.2580	.2516	.2452	.2389	.2328	.2268	.2210	.2154	.2100	.2048	.1997	.1949
	1.16	.2641	.2579	.2517	.2454	.2390	.2327	.2266	.2206	.2147	.2089	.2032	.1978	.1924	.1872	.1821	.1769
	1.18	.2458	.2397	.2335	.2273	.2210	.2148	.2087	.2028	.1969	.1911	.1855	.1799	.1746	.1693	.1642	.1591
	1.20	.2282	.2221	.2159	.2097	.2035	.1973	.1912	.1852	.1793	.1735	.1678	.1622	.1567	.1513	.1462	.1411
	1.22	.2114	.2053	.1991	.1929	.1867	.1805	.1744	.1684	.1625	.1567	.1510	.1454	.1400	.1346	.1293	.1241
	1.24	.1952	.1891	.1829	.1767	.1705	.1643	.1582	.1522	.1463	.1405	.1348	.1292	.1238	.1187	.1135	.1083
	1.26	.1799	.1738	.1676	.1614	.1552	.1490	.1428	.1367	.1307	.1248	.1190	.1134	.1080	.1028	.0976	.0924
	1.28	.1653	.1592	.1530	.1468	.1406	.1344	.1282	.1221	.1161	.1102	.1044	.0988	.0934	.0882	.0830	.0778
	1.30	.1515	.1454	.1392	.1330	.1268	.1206	.1144	.1082	.1021	.0962	.0904	.0848	.0794	.0742	.0690	.0638
	1.32	.1385	.1324	.1262	.1200	.1138	.1076	.1014	.0952	.0891	.0832	.0774	.0718	.0664	.0612	.0560	.0508
	1.34	.1262	.1200	.1138	.1076	.1014	.0952	.0891	.0832	.0774	.0718	.0664	.0612	.0560	.0508	.0456	.0404
	1.36	.1147	.1085	.1023	.0961	.0899	.0838	.0776	.0715	.0655	.0596	.0538	.0481	.0426	.0372	.0319	.0269
	1.38	.1040	.0978	.0916	.0854	.0792	.0731	.0670	.0610	.0551	.0493	.0436	.0380	.0326	.0273	.0221	.0169
	1.40	.0941	.0879	.0817	.0755	.0693	.0632	.0571	.0511	.0452	.0394	.0337	.0282	.0229	.0176	.0124	.0072
	1.42	.0848	.0786	.0724	.0662	.0600	.0538	.0476	.0415	.0356	.0298	.0241	.0186	.0133	.0080	.0028	.0000
	1.44	.0763	.0701	.0639	.0577	.0515	.0453	.0391	.0330	.0270	.0212	.0155	.0100	.0047	.0000	.0000	.0000
	1.46	.0684	.0622	.0560	.0498	.0436	.0374	.0312	.0251	.0191	.0134	.0078	.0024	.0000	.0000	.0000	.0000
	1.48	.0612	.0550	.0488	.0426	.0364	.0302	.0240	.0179	.0120	.0063	.0009	.0000	.0000	.0000	.0000	.0000
	1.50	.0545	.0483	.0421	.0359	.0297	.0235	.0173	.0112	.0055	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1.60	.0295	.0233	.0171	.0109	.0047	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1.70	.0148	.0086	.0024	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1.80	.0069	.0007	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1.90	.0030	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.00	.0012	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.10	.0005	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.20	.0002	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.30	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.40	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.50	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.60	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.70	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2.80	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
INFINITY	2.90	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
	3.00	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
	3.10	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
	3.20	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
	3.30	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.40	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.50	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.60	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.70	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.80	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	



A1

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 10% WR

		WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )															
		6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50
0.00	0.00	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.05	0.05	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.10	0.10	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.15	0.15	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.20	0.20	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.25	0.25	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.30	0.30	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.35	0.35	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.40	0.40	.9997	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.45	0.45	.9991	.9996	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.50	0.50	.9977	.9987	.9993	.9996	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.52	0.52	.9966	.9980	.9988	.9993	.9996	.9997	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.54	0.54	.9952	.9971	.9982	.9989	.9993	.9995	.9997	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.56	0.56	.9933	.9957	.9973	.9982	.9988	.9992	.9995	.9996	.9998	.9998	.9999	.9999	.9999	.9999	.9999	.9999
0.58	0.58	.9907	.9938	.9959	.9972	.9981	.9987	.9991	.9994	.9995	.9997	.9998	.9998	.9999	.9999	.9999	.9999
0.60	0.60	.9873	.9913	.9940	.9956	.9970	.9979	.9985	.9989	.9992	.9994	.9995	.9996	.9997	.9998	.9998	.9999
0.62	0.62	.9829	.9878	.9913	.9937	.9954	.9966	.9974	.9981	.9985	.9989	.9991	.9993	.9994	.9996	.9996	.9997
0.64	0.64	.9772	.9832	.9876	.9907	.9930	.9947	.9959	.9968	.9975	.9980	.9984	.9987	.9989	.9991	.9993	.9994
0.66	0.66	.9700	.9773	.9826	.9866	.9896	.9918	.9935	.9948	.9958	.9966	.9972	.9977	.9980	.9984	.9986	.9988
0.68	0.68	.9611	.9696	.9761	.9819	.9848	.9878	.9900	.9918	.9932	.9943	.9952	.9959	.9965	.9970	.9974	.9977
0.70	0.70	.9501	.9600	.9676	.9736	.9784	.9821	.9851	.9874	.9893	.9909	.9922	.9932	.9941	.9948	.9954	.9959
0.72	0.72	.9368	.9480	.9569	.9640	.9697	.9743	.9781	.9812	.9837	.9858	.9875	.9889	.9902	.9912	.9921	.9928
0.74	0.74	.9260	.9383	.9474	.9537	.9585	.9640	.9686	.9725	.9757	.9784	.9806	.9826	.9842	.9856	.9869	.9879
0.76	0.76	.9181	.9317	.9399	.9469	.9533	.9596	.9651	.9707	.9754	.9794	.9826	.9856	.9874	.9889	.9901	.9909
0.78	0.78	.9124	.9265	.9348	.9415	.9475	.9533	.9586	.9640	.9686	.9725	.9757	.9784	.9806	.9826	.9842	.9856
0.80	0.80	.9083	.9227	.9311	.9375	.9433	.9486	.9539	.9592	.9639	.9686	.9725	.9757	.9784	.9806	.9826	.9842
0.82	0.82	.9053	.9197	.9281	.9343	.9399	.9451	.9503	.9555	.9602	.9649	.9696	.9734	.9766	.9789	.9809	.9826
0.84	0.84	.9034	.9177	.9261	.9322	.9377	.9428	.9479	.9529	.9576	.9623	.9670	.9707	.9739	.9766	.9789	.9809
0.86	0.86	.9024	.9166	.9250	.9311	.9365	.9416	.9466	.9516	.9562	.9609	.9656	.9693	.9725	.9757	.9789	.9809
0.88	0.88	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
0.90	0.90	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
0.92	0.92	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
0.94	0.94	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
0.96	0.96	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
0.98	0.98	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
1.00	1.00	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
1.02	1.02	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
1.04	1.04	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
1.06	1.06	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
1.08	1.08	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
1.10	1.10	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809
1.12	1.12	.9020	.9161	.9245	.9305	.9359	.9409	.9459	.9509	.9555	.9602	.9649	.9686	.9718	.9750	.9789	.9809

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



A1

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 10% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	
	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	
1.14	.1859	.1757	.1666	.1585	.1513	.1450	.1393	.1343	.1298	.1258	.1223	.1191	.1162	.1136	.1113	.1092	.1072
1.16	.1373	.1468	.1376	.1293	.1253	.1163	.1108	.1066	.1018	.9780	.9447	.9117	.8791	.8467	.8146	.7827	.7510
1.18	.1317	.1214	.1124	.1046	.0971	.0920	.0869	.0824	.0786	.0752	.0722	.0693	.0672	.0651	.0632	.0613	.0595
1.20	.1093	.0912	.0847	.0834	.0771	.0718	.0667	.0632	.0597	.0567	.0541	.0518	.0498	.0480	.0464	.0450	.0436
1.22	.0897	.0693	.0723	.0650	.0600	.0552	.0512	.0477	.0447	.0422	.0400	.0380	.0364	.0349	.0336	.0324	.0313
1.24	.0739	.0642	.0570	.0510	.0461	.0419	.0384	.0355	.0330	.0309	.0291	.0275	.0261	.0249	.0239	.0230	.0223
1.26	.0587	.0568	.0444	.0392	.0349	.0314	.0285	.0261	.0240	.0223	.0208	.0196	.0185	.0175	.0167	.0160	.0154
1.28	.0468	.0398	.0342	.0297	.0261	.0232	.0208	.0188	.0172	.0158	.0147	.0137	.0129	.0121	.0115	.0110	.0106
1.30	.0369	.0308	.0261	.0223	.0193	.0169	.0150	.0134	.0122	.0111	.0102	.0095	.0088	.0083	.0078	.0074	.0070
1.32	.0289	.0236	.0196	.0165	.0141	.0122	.0107	.0095	.0085	.0077	.0070	.0064	.0060	.0056	.0052	.0049	.0046
1.34	.0223	.0179	.0146	.0121	.0101	.0087	.0075	.0066	.0058	.0052	.0047	.0043	.0040	.0037	.0035	.0032	.0030
1.36	.0171	.0134	.0107	.0087	.0072	.0061	.0052	.0045	.0040	.0035	.0032	.0029	.0026	.0024	.0022	.0021	.0020
1.38	.0130	.0100	.0078	.0062	.0051	.0042	.0035	.0030	.0026	.0023	.0021	.0019	.0017	.0016	.0014	.0013	.0012
1.40	.0097	.0073	.0056	.0044	.0035	.0029	.0024	.0020	.0017	.0015	.0013	.0012	.0011	.0010	.0009	.0008	.0007
1.42	.0072	.0053	.0040	.0031	.0024	.0019	.0016	.0013	.0011	.0010	.0009	.0008	.0007	.0006	.0006	.0005	.0004
1.44	.0053	.0038	.0028	.0021	.0016	.0013	.0011	.0009	.0007	.0006	.0005	.0005	.0004	.0004	.0004	.0003	.0003
1.46	.0039	.0027	.0020	.0014	.0011	.0009	.0007	.0006	.0005	.0004	.0003	.0003	.0002	.0002	.0002	.0001	.0001
1.48	.0028	.0019	.0013	.0010	.0007	.0006	.0004	.0004	.0003	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001
1.50	.0020	.0013	.0009	.0007	.0005	.0004	.0003	.0002	.0002	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000
1.60	.0003	.0002	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
1.70	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
INFINITY	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 10% WR

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

## A2

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 20% WR

		WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )															
		0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.70	0.80	0.90	1.00
OFFSET DISTANCE/WEAPON RADIUS (D/WR)	0.00	.0017	.0069	.0155	.0273	.0422	.0602	.0808	.1040	.1295	.1569	.1861	.2167	.2811	.3478	.4150	.4807
	0.10	.0017	.0069	.0155	.0273	.0422	.0601	.0806	.1039	.1293	.1567	.1858	.2162	.2803	.3466	.4133	.4785
	0.20	.0017	.0069	.0154	.0272	.0421	.0600	.0802	.1036	.1288	.1559	.1847	.2148	.2784	.3431	.4083	.4718
	0.30	.0017	.0069	.0154	.0272	.0420	.0596	.0798	.1030	.1280	.1547	.1830	.2125	.2741	.3373	.4019	.4610
	0.40	.0017	.0069	.0154	.0271	.0418	.0593	.0792	.1013	.1254	.1530	.1807	.2094	.2688	.3292	.3888	.4461
	0.50	.0017	.0069	.0154	.0270	.0416	.0589	.0785	.1002	.1236	.1483	.1741	.2005	.2522	.3122	.3748	.4278
	0.60	.0017	.0069	.0153	.0269	.0414	.0584	.0777	.0989	.1215	.1453	.1699	.1950	.2452	.2939	.3399	.3822
	0.70	.0017	.0069	.0153	.0267	.0411	.0579	.0768	.0973	.1192	.1429	.1653	.1888	.2351	.2792	.3197	.3562
	0.80	.0017	.0069	.0153	.0267	.0408	.0573	.0757	.0956	.1166	.1382	.1601	.1819	.2242	.2633	.2982	.3287
	0.90	.0017	.0069	.0152	.0265	.0405	.0566	.0746	.0937	.1138	.1342	.1546	.1746	.2126	.2466	.2758	.3004
	1.00	.0017	.0068	.0152	.0264	.0401	.0559	.0733	.0917	.1107	.1298	.1487	.1669	.2005	.2293	.2530	.2719
	1.10	.0017	.0068	.0151	.0262	.0397	.0552	.0719	.0896	.1075	.1252	.1425	.1588	.1880	.2118	.2302	.2436
	1.20	.0017	.0068	.0150	.0260	.0393	.0543	.0705	.0873	.1041	.1204	.1360	.1504	.1753	.1943	.2076	.2161
	1.30	.0017	.0068	.0149	.0259	.0389	.0535	.0690	.0848	.1005	.1154	.1293	.1419	.1625	.1769	.1857	.1898
	1.40	.0017	.0068	.0149	.0257	.0384	.0525	.0674	.0823	.0968	.1103	.1226	.1333	.1498	.1600	.1646	.1650
	1.50	.0017	.0068	.0149	.0254	.0379	.0516	.0657	.0797	.0930	.1051	.1157	.1246	.1374	.1436	.1447	.1420
	1.60	.0017	.0068	.0148	.0252	.0374	.0506	.0640	.0770	.0891	.0998	.1088	.1161	.1252	.1280	.1261	.1209
	1.70	.0017	.0068	.0147	.0250	.0368	.0495	.0622	.0743	.0852	.0945	.1020	.1076	.1135	.1133	.1089	.1019
	1.80	.0017	.0067	.0146	.0247	.0363	.0484	.0604	.0715	.0812	.0891	.0952	.0993	.1023	.0996	.0933	.0849
	1.90	.0017	.0067	.0145	.0245	.0357	.0473	.0585	.0686	.0772	.0838	.0885	.0913	.0916	.0869	.0791	.0700
2.00	.0017	.0067	.0143	.0239	.0344	.0450	.0547	.0629	.0692	.0735	.0757	.0761	.0723	.0647	.0535	.0451	
2.10	.0017	.0066	.0141	.0233	.0331	.0425	.0508	.0572	.0615	.0636	.0638	.0623	.0558	.0468	.0375	.0291	
2.20	.0017	.0066	.0139	.0227	.0317	.0401	.0468	.0515	.0540	.0544	.0530	.0502	.0420	.0329	.0245	.0176	
2.30	.0017	.0065	.0137	.0220	.0303	.0375	.0429	.0460	.0470	.0459	.0433	.0397	.0309	.0224	.0154	.0101	
2.40	.0017	.0065	.0134	.0213	.0289	.0350	.0391	.0408	.0404	.0383	.0349	.0308	.0223	.0148	.0093	.0056	
2.50	.0017	.0064	.0132	.0206	.0274	.0325	.0353	.0359	.0344	.0315	.0277	.0235	.0156	.0095	.0054	.0029	
2.60	.0017	.0064	.0129	.0199	.0259	.0300	.0318	.0313	.0290	.0256	.0216	.0176	.0107	.0059	.0031	.0015	
2.70	.0017	.0063	.0126	.0192	.0244	.0276	.0284	.0270	.0242	.0205	.0167	.0130	.0072	.0036	.0017	.0007	
2.80	.0017	.0062	.0124	.0184	.0230	.0252	.0252	.0232	.0200	.0163	.0126	.0094	.0047	.0021	.0009	.0003	
2.90	.0017	.0062	.0121	.0176	.0215	.0230	.0222	.0197	.0163	.0127	.0094	.0067	.0030	.0012	.0004	.0001	
3.00	.0017	.0060	.0113	.0157	.0180	.0178	.0157	.0127	.0094	.0065	.0043	.0026	.0009	.0003	.0001	.0000	
3.10	.0017	.0058	.0105	.0138	.0147	.0134	.0107	.0077	.0051	.0031	.0017	.0009	.0002	.0000	.0000	.0000	
3.20	.0016	.0056	.0097	.0120	.0118	.0098	.0070	.0045	.0026	.0013	.0006	.0003	.0000	.0000	.0000	.0000	
3.30	.0016	.0054	.0089	.0102	.0092	.0069	.0044	.0025	.0012	.0005	.0002	.0001	.0000	.0000	.0000	.0000	
3.40	.0016	.0052	.0080	.0086	.0071	.0047	.0027	.0013	.0005	.0002	.0001	.0000	.0000	.0000	.0000	.0000	
3.50	.0016	.0049	.0072	.0072	.0053	.0032	.0015	.0006	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	
3.60	.0016	.0047	.0065	.0059	.0039	.0020	.0009	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.70	.0015	.0044	.0057	.0048	.0028	.0013	.0005	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.80	.0015	.0042	.0051	.0038	.0020	.0008	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.90	.0015	.0039	.0044	.0030	.0014	.0005	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
4.00	.0015	.0037	.0038	.0023	.0009	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	

## A2

 OFFSET CIRCLE PROBABILITIES  
 DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 20% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )	WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																		
	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60			
0.00	.5436	.6027	.6571	.7066	.7508	.7899	.8240	.8535	.8788	.9002	.9182	.9333	.9458	.9562	.9647	.9716			
0.05	.5429	.6018	.6562	.7055	.7496	.7886	.8227	.8521	.8774	.8988	.9167	.9318	.9442	.9546	.9630	.9699			
0.10	.5408	.5993	.6537	.7029	.7469	.7858	.8198	.8491	.8743	.8956	.9134	.9285	.9408	.9511	.9595	.9664			
0.15	.5373	.5953	.6493	.6982	.7421	.7809	.8148	.8440	.8691	.8903	.9080	.9231	.9353	.9455	.9539	.9608			
0.20	.5324	.5897	.6433	.6919	.7356	.7743	.8081	.8372	.8622	.8833	.8968	.9127	.9262	.9376	.9473	.9555			
0.25	.5263	.5817	.6328	.6792	.7208	.7578	.7905	.8192	.8441	.8658	.8846	.9008	.9147	.9267	.9370	.9458			
0.30	.5188	.5727	.6223	.6674	.7079	.7440	.7766	.8042	.8289	.8506	.8695	.8860	.9004	.9129	.9239	.9334			
0.35	.5101	.5622	.6101	.6536	.6928	.7278	.7589	.7865	.8109	.8325	.8515	.8683	.8831	.8961	.9076	.9178			
0.40	.5002	.5504	.5963	.6381	.6757	.7094	.7395	.7664	.7903	.8116	.8306	.8475	.8626	.8761	.8881	.8988			
0.45	.4892	.5372	.5810	.6208	.6567	.6889	.7178	.7438	.7670	.7879	.8067	.8236	.8388	.8526	.8651	.8764			
0.50	.4772	.5228	.5643	.6019	.6359	.6665	.6940	.7189	.7413	.7615	.7799	.7966	.8118	.8257	.8384	.8500			
0.55	.4643	.5072	.5463	.5816	.6135	.6423	.6683	.6918	.7131	.7326	.7503	.7666	.7816	.7953	.8080	.8197			
0.60	.4505	.4907	.5272	.5601	.5897	.6163	.6407	.6627	.6828	.7012	.7181	.7337	.7482	.7615	.7740	.7855			
0.65	.4359	.4733	.5078	.5374	.5646	.5893	.6116	.6319	.6506	.6677	.6835	.6982	.7118	.7245	.7364	.7476			
0.70	.4207	.4552	.4861	.5137	.5385	.5609	.5811	.5996	.6166	.6323	.6468	.6603	.6729	.6846	.6957	.7061			
0.75	.4048	.4364	.4644	.4893	.5115	.5313	.5496	.5661	.5813	.5952	.6082	.6203	.6316	.6422	.6522	.6616			
0.80	.3886	.4174	.4422	.4643	.4839	.5015	.5173	.5317	.5449	.5578	.5693	.5788	.5886	.5978	.6064	.6146			
0.85	.3719	.3974	.4196	.4389	.4559	.4710	.4845	.4967	.5078	.5180	.5274	.5361	.5443	.5519	.5591	.5658			
0.90	.3550	.3773	.3967	.4133	.4276	.4402	.4514	.4613	.4703	.4785	.4860	.4929	.4993	.5052	.5107	.5159			
0.95	.3379	.3574	.3738	.3876	.3994	.4095	.4183	.4261	.4330	.4391	.4446	.4497	.4542	.4584	.4623	.4658			
1.00	.3207	.3373	.3509	.3621	.3713	.3791	.3856	.3912	.3960	.4001	.4037	.4069	.4097	.4121	.4143	.4162			
1.05	.3036	.3174	.3283	.3369	.3437	.3492	.3535	.3570	.3598	.3620	.3638	.3652	.3662	.3670	.3676	.3680			
1.10	.2865	.2976	.3059	.3121	.3167	.3199	.3222	.3238	.3247	.3251	.3259	.3269	.3274	.3279	.3282	.3284			
1.15	.2696	.2782	.2841	.2880	.2904	.2916	.2920	.2918	.2910	.2898	.2883	.2866	.2847	.2827	.2806	.2784			
1.20	.2530	.2591	.2628	.2646	.2650	.2645	.2631	.2612	.2590	.2564	.2536	.2506	.2475	.2444	.2412	.2381			
1.25	.2367	.2406	.2422	.2420	.2407	.2385	.2357	.2324	.2288	.2250	.2211	.2171	.2131	.2091	.2052	.2013			
1.30	.2208	.2226	.2223	.2204	.2175	.2139	.2098	.2053	.2007	.1959	.1912	.1864	.1817	.1771	.1726	.1682			
1.35	.2054	.2053	.2033	.1999	.1956	.1908	.1856	.1802	.1747	.1693	.1638	.1585	.1534	.1484	.1436	.1390			
1.40	.1903	.1867	.1851	.1805	.1751	.1692	.1632	.1571	.1510	.1450	.1392	.1336	.1282	.1230	.1181	.1135			
1.45	.1761	.1728	.1679	.1621	.1558	.1493	.1426	.1360	.1295	.1233	.1172	.1115	.1061	.1009	.0961	.0916			
1.50	.1624	.1577	.1518	.1451	.1380	.1309	.1238	.1169	.1102	.1039	.0979	.0922	.0869	.0819	.0773	.0730			
1.55	.1492	.1434	.1366	.1292	.1216	.1141	.1068	.0998	.0931	.0868	.0810	.0755	.0703	.0658	.0615	.0576			
1.60	.1367	.1300	.1224	.1145	.1066	.0989	.0915	.0845	.0780	.0720	.0664	.0613	.0566	.0523	.0484	.0449			
1.65	.1249	.1174	.1092	.1010	.0929	.0852	.0779	.0711	.0649	.0592	.0539	.0492	.0450	.0411	.0377	.0346			
1.70	.1137	.1056	.0971	.0887	.0806	.0730	.0659	.0594	.0535	.0482	.0434	.0392	.0354	.0328	.0299	.0263			
1.75	.1034	.0946	.0858	.0774	.0696	.0626	.0562	.0504	.0452	.0406	.0366	.0332	.0304	.0281	.0261	.0248			
1.80	.0934	.0846	.0758	.0674	.0596	.0526	.0462	.0406	.0356	.0316	.0279	.0249	.0223	.0203	.0188	.0180			
1.85	.0840	.0751	.0663	.0579	.0499	.0429	.0364	.0306	.0256	.0219	.0191	.0167	.0143	.0123	.0106	.0094			
1.90	.0758	.0667	.0579	.0493	.0413	.0343	.0284	.0234	.0194	.0168	.0143	.0118	.0098	.0082	.0068	.0060			
1.95	.0680	.0586	.0497	.0412	.0332	.0263	.0214	.0170	.0136	.0108	.0087	.0069	.0056	.0045	.0037	.0030			
2.00	.0607	.0509	.0425	.0345	.0275	.0215	.0161	.0126	.0096	.0071	.0051	.0039	.0031	.0024	.0019	.0015			
2.05	.0540	.0437	.0357	.0280	.0219	.0165	.0120	.0085	.0060	.0041	.0030	.0022	.0016	.0012	.0009	.0007			
2.10	.0480	.0375	.0300	.0237	.0185	.0141	.0101	.0066	.0045	.0033	.0025	.0018	.0013	.0009	.0006	.0005			
2.15	.0426	.0319	.0250	.0192	.0145	.0105	.0069	.0046	.0034	.0026	.0019	.0014	.0010	.0007	.0005	.0004			
2.20	.0375	.0263	.0200	.0146	.0103	.0069	.0046	.0034	.0026	.0019	.0014	.0010	.0007	.0005	.0003	.0002			
2.25	.0329	.0212	.0154	.0104	.0065	.0043	.0031	.0022	.0016	.0012	.0009	.0006	.0004	.0003	.0002	.0001			
2.30	.0289	.0169	.0116	.0071	.0046	.0031	.0022	.0016	.0012	.0009	.0006	.0004	.0003	.0002	.0001	.0000			
2.40	.0259	.0133	.0085	.0044	.0029	.0019	.0013	.0009	.0006	.0004	.0003	.0002	.0001	.0000	.0000	.0000			



A2

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 20% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																
1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	
2.50 .0165	.0117	.0082	.0057	.0039	.0027	.0018	.0012	.0009	.0006	.0004	.0003	.0002	.0002	.0001	.0001	
2.60 .0122	.0083	.0056	.0037	.0024	.0016	.0010	.0007	.0004	.0003	.0002	.0001	.0001	.0001	.0001	.0000	
2.70 .0089	.0058	.0037	.0023	.0015	.0009	.0006	.0004	.0002	.0001	.0001	.0001	.0000	.0000	.0000	.0000	
2.80 .0065	.0040	.0024	.0015	.0009	.0005	.0003	.0002	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000	
2.90 .0046	.0027	.0016	.0009	.0005	.0003	.0002	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.00 .0032	.0018	.0010	.0005	.0003	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.10 .0022	.0012	.0006	.0003	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.20 .0015	.0008	.0004	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.30 .0010	.0005	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.40 .0007	.0003	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.50 .0004	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.60 .0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.70 .0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.80 .0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.90 .0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
4.00 .0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
4.10 .0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
4.20 .0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
4.30 .0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
4.40 .0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
4.50 .0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



## A2

 OFFSET CIRCLE PROBABILITIES  
 DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 20% WR

OFFSET DISTANCE/WEAPON RADIUS (D/WR)	WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )														
	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40
0.00	97.16	98.18	98.85	99.27	99.55	99.72	99.83	99.89	99.93	99.96	99.97	99.98	99.99	99.99	99.99
0.05	97.06	98.10	98.78	99.23	99.51	99.69	99.81	99.88	99.92	99.95	99.97	99.98	99.99	99.99	99.99
0.10	96.77	97.86	98.59	99.07	99.39	99.60	99.74	99.83	99.89	99.93	99.95	99.97	99.98	99.99	99.99
0.15	96.28	97.45	98.25	98.80	99.18	99.40	99.54	99.63	99.69	99.74	99.79	99.84	99.88	99.90	99.91
0.20	95.55	96.83	97.74	98.39	98.85	99.17	99.41	99.57	99.69	99.77	99.84	99.88	99.91	99.93	99.95
0.25	94.58	95.99	97.03	97.79	98.35	98.77	99.08	99.27	99.47	99.60	99.70	99.78	99.82	99.86	99.89
0.30	93.34	94.89	96.06	96.96	97.65	98.17	98.57	98.88	99.12	99.31	99.45	99.57	99.65	99.72	99.78
0.35	91.78	93.48	94.80	95.85	96.67	97.32	97.84	98.25	98.58	98.84	99.05	99.22	99.35	99.46	99.55
0.40	89.89	91.72	93.20	94.39	95.36	96.15	96.79	97.32	97.75	98.10	98.39	98.64	98.84	99.01	99.15
0.45	87.64	89.59	91.20	92.53	93.64	94.57	95.34	95.99	96.54	97.00	97.39	97.72	98.01	98.25	98.46
0.50	85.00	87.04	88.76	90.22	91.46	92.51	93.41	94.19	94.85	95.42	95.92	96.35	96.72	97.05	97.33
0.55	82.04	84.20	86.05	87.65	89.02	90.23	91.34	92.34	93.23	94.03	94.73	95.44	96.05	96.61	97.01
0.60	78.74	81.04	82.97	84.67	86.17	87.57	88.87	90.07	91.17	92.17	93.07	93.89	94.62	95.27	95.84
0.65	75.14	77.54	79.57	81.37	83.00	84.54	85.99	87.34	88.59	89.74	90.89	92.04	93.19	94.24	95.29
0.70	71.24	73.74	75.87	77.77	79.50	81.14	82.71	84.19	85.57	86.86	88.06	89.26	90.46	91.66	92.86
0.75	67.04	69.64	71.87	73.87	75.70	77.44	79.09	80.67	82.15	83.54	84.93	86.32	87.71	89.10	90.49
0.80	62.54	65.24	67.57	69.67	71.67	73.57	75.37	77.07	78.67	80.17	81.67	83.16	84.65	86.14	87.63
0.85	57.84	60.64	63.07	65.27	67.37	69.37	71.37	73.37	75.37	77.37	79.37	81.37	83.37	85.37	87.37
0.90	52.84	55.74	58.27	60.57	62.77	64.97	67.17	69.37	71.57	73.77	75.97	78.17	80.37	82.57	84.77
0.95	47.54	50.54	53.17	55.57	57.87	60.17	62.47	64.77	67.07	69.37	71.67	73.97	76.27	78.57	80.87
1.00	41.84	44.94	47.67	50.17	52.67	55.17	57.67	60.17	62.67	65.17	67.67	70.17	72.67	75.17	77.67
1.05	36.84	39.94	42.67	45.17	47.67	50.17	52.67	55.17	57.67	60.17	62.67	65.17	67.67	70.17	72.67
1.10	31.54	34.64	37.37	39.87	42.37	44.87	47.37	49.87	52.37	54.87	57.37	59.87	62.37	64.87	67.37
1.15	26.04	29.14	31.87	34.37	36.87	39.37	41.87	44.37	46.87	49.37	51.87	54.37	56.87	59.37	61.87
1.20	20.54	23.64	26.37	28.87	31.37	33.87	36.37	38.87	41.37	43.87	46.37	48.87	51.37	53.87	56.37

## A2

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 20% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	
	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60	
1.14	.2868	.2827	.2786	.2744	.2703	.2664	.2626	.2590	.2556	.2524	.2494	.2466	.2439	.2414	.2391	.2369	
1.16	.2761	.2732	.2693	.2653	.2613	.2573	.2533	.2493	.2453	.2413	.2373	.2333	.2293	.2253	.2213	.2173	
1.18	.2636	.2607	.2578	.2549	.2520	.2491	.2462	.2433	.2404	.2375	.2346	.2317	.2288	.2259	.2230	.2201	
1.20	.2538	.2509	.2480	.2451	.2422	.2393	.2364	.2335	.2306	.2277	.2248	.2219	.2190	.2161	.2132	.2103	
1.22	.2459	.2430	.2401	.2372	.2343	.2314	.2285	.2256	.2227	.2198	.2169	.2140	.2111	.2082	.2053	.2024	
1.24	.2394	.2365	.2336	.2307	.2278	.2249	.2220	.2191	.2162	.2133	.2104	.2075	.2046	.2017	.1988	.1959	
1.26	.2342	.2313	.2284	.2255	.2226	.2197	.2168	.2139	.2110	.2081	.2052	.2023	.1994	.1965	.1936	.1907	
1.28	.2299	.2270	.2241	.2212	.2183	.2154	.2125	.2096	.2067	.2038	.2009	.1980	.1951	.1922	.1893	.1864	
1.30	.2264	.2235	.2206	.2177	.2148	.2119	.2090	.2061	.2032	.2003	.1974	.1945	.1916	.1887	.1858	.1829	
1.32	.2236	.2207	.2178	.2149	.2120	.2091	.2062	.2033	.2004	.1975	.1946	.1917	.1888	.1859	.1830	.1801	
1.34	.2214	.2185	.2156	.2127	.2098	.2069	.2040	.2011	.1982	.1953	.1924	.1895	.1866	.1837	.1808	.1779	
1.36	.2196	.2167	.2138	.2109	.2080	.2051	.2022	.1993	.1964	.1935	.1906	.1877	.1848	.1819	.1790	.1761	
1.38	.2181	.2152	.2123	.2094	.2065	.2036	.2007	.1978	.1949	.1920	.1891	.1862	.1833	.1804	.1775	.1746	
1.40	.2168	.2139	.2110	.2081	.2052	.2023	.1994	.1965	.1936	.1907	.1878	.1849	.1820	.1791	.1762	.1733	
1.42	.2156	.2127	.2098	.2069	.2040	.2011	.1982	.1953	.1924	.1895	.1866	.1837	.1808	.1779	.1750	.1721	
1.44	.2145	.2116	.2087	.2058	.2029	.2000	.1971	.1942	.1913	.1884	.1855	.1826	.1797	.1768	.1739	.1710	
1.46	.2135	.2106	.2077	.2048	.2019	.1990	.1961	.1932	.1903	.1874	.1845	.1816	.1787	.1758	.1729	.1700	
1.48	.2126	.2097	.2068	.2039	.2010	.1981	.1952	.1923	.1894	.1865	.1836	.1807	.1778	.1749	.1720	.1691	
1.50	.2118	.2089	.2060	.2031	.2002	.1973	.1944	.1915	.1886	.1857	.1828	.1799	.1770	.1741	.1712	.1683	
1.52	.2110	.2081	.2052	.2023	.1994	.1965	.1936	.1907	.1878	.1849	.1820	.1791	.1762	.1733	.1704	.1675	
1.54	.2103	.2074	.2045	.2016	.1987	.1958	.1929	.1900	.1871	.1842	.1813	.1784	.1755	.1726	.1697	.1668	
1.56	.2096	.2067	.2038	.2009	.1980	.1951	.1922	.1893	.1864	.1835	.1806	.1777	.1748	.1719	.1690	.1661	
1.58	.2090	.2061	.2032	.2003	.1974	.1945	.1916	.1887	.1858	.1829	.1800	.1771	.1742	.1713	.1684	.1655	
1.60	.2084	.2055	.2026	.1997	.1968	.1939	.1910	.1881	.1852	.1823	.1794	.1765	.1736	.1707	.1678	.1649	
1.62	.2078	.2049	.2020	.1991	.1962	.1933	.1904	.1875	.1846	.1817	.1788	.1759	.1730	.1701	.1672	.1643	
1.64	.2073	.2044	.2015	.1986	.1957	.1928	.1899	.1870	.1841	.1812	.1783	.1754	.1725	.1696	.1667	.1638	
1.66	.2068	.2039	.2010	.1981	.1952	.1923	.1894	.1865	.1836	.1807	.1778	.1749	.1720	.1691	.1662	.1633	
1.68	.2063	.2034	.2005	.1976	.1947	.1918	.1889	.1860	.1831	.1802	.1773	.1744	.1715	.1686	.1657	.1628	
1.70	.2058	.2029	.2000	.1971	.1942	.1913	.1884	.1855	.1826	.1797	.1768	.1739	.1710	.1681	.1652	.1623	
1.80	.0148	.0118	.0096	.0079	.0066	.0057	.0049	.0043	.0038	.0034	.0031	.0029	.0026	.0025	.0023	.0022	
1.90	.0080	.0061	.0048	.0038	.0031	.0026	.0022	.0019	.0017	.0015	.0013	.0012	.0011	.0010	.0009	.0009	
2.00	.0041	.0030	.0023	.0018	.0014	.0011	.0009	.0008	.0007	.0006	.0006	.0005	.0005	.0004	.0004	.0004	
2.10	.0020	.0014	.0010	.0008	.0006	.0005	.0004	.0003	.0003	.0003	.0002	.0002	.0002	.0002	.0002	.0001	
2.20	.0010	.0007	.0005	.0003	.0003	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
2.30	.0005	.0003	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
2.40	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
2.50	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
2.60	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
2.70	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
2.80	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.00	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

## A2

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 20% WR

WEAPON RADIUS/CEP<sub>0</sub> (WR/CEP<sub>0</sub>)

	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50
0.00	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.05	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.10	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.15	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.20	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.25	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.30	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.35	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.40	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.45	.9992	.9991	.9992	.9992	.9992	.9992	.9992	.9992	.9992	.9992	.9992	.9992	.9992	.9992	.9992	.9992
0.50	.9800	.9839	.9869	.9891	.9909	.9922	.9933	.9942	.9949	.9954	.9959	.9963	.9966	.9969	.9972	.9974
0.52	.9748	.9794	.9829	.9855	.9876	.9893	.9906	.9917	.9926	.9933	.9939	.9945	.9949	.9953	.9956	.9959
0.54	.9687	.9738	.9778	.9810	.9835	.9855	.9871	.9884	.9895	.9904	.9912	.9919	.9925	.9929	.9934	.9937
0.56	.9613	.9671	.9717	.9753	.9782	.9806	.9825	.9841	.9855	.9866	.9876	.9884	.9891	.9897	.9903	.9908
0.58	.9526	.9591	.9642	.9683	.9717	.9744	.9764	.9786	.9802	.9816	.9827	.9837	.9846	.9854	.9861	.9866
0.60	.9426	.9497	.9553	.9599	.9637	.9668	.9694	.9716	.9735	.9751	.9765	.9777	.9787	.9797	.9805	.9812
0.62	.9309	.9386	.9448	.9499	.9541	.9576	.9605	.9630	.9651	.9670	.9686	.9700	.9712	.9723	.9732	.9741
0.64	.9177	.9259	.9325	.9380	.9426	.9465	.9497	.9525	.9551	.9570	.9588	.9603	.9617	.9630	.9641	.9650
0.66	.9027	.9113	.9184	.9243	.9292	.9333	.9369	.9399	.9425	.9448	.9468	.9486	.9501	.9515	.9527	.9538
0.68	.8859	.8948	.9022	.9084	.9136	.9180	.9218	.9251	.9279	.9303	.9325	.9344	.9361	.9376	.9389	.9401
0.70	.8673	.8764	.8840	.8904	.8958	.9004	.9044	.9078	.9108	.9134	.9157	.9177	.9195	.9211	.9225	.9238
0.72	.8468	.8560	.8638	.8703	.8758	.8805	.8845	.8881	.8911	.8938	.8962	.8983	.9001	.9018	.9033	.9046
0.74	.8245	.8337	.8414	.8479	.8534	.8582	.8622	.8658	.8689	.8716	.8740	.8761	.8780	.8797	.8812	.8826
0.76	.8004	.8094	.8170	.8233	.8288	.8335	.8375	.8410	.8441	.8468	.8492	.8513	.8531	.8548	.8563	.8577
0.78	.7747	.7833	.7906	.7967	.8020	.8065	.8104	.8138	.8168	.8194	.8217	.8237	.8256	.8272	.8286	.8300
0.80	.7473	.7555	.7624	.7682	.7732	.7774	.7811	.7843	.7871	.7896	.7918	.7937	.7954	.7970	.7984	.7996
0.82	.7183	.7261	.7325	.7378	.7424	.7464	.7498	.7528	.7554	.7576	.7596	.7614	.7630	.7644	.7657	.7668
0.84	.6885	.6953	.7011	.7060	.7101	.7136	.7167	.7194	.7217	.7237	.7255	.7271	.7285	.7298	.7309	.7319
0.86	.6574	.6634	.6685	.6727	.6764	.6795	.6821	.6844	.6864	.6882	.6897	.6911	.6923	.6934	.6944	.6952
0.88	.6254	.6306	.6349	.6385	.6415	.6441	.6464	.6483	.6499	.6514	.6527	.6538	.6548	.6557	.6565	.6572
0.90	.5929	.5971	.6006	.6035	.6059	.6080	.6097	.6113	.6126	.6137	.6147	.6156	.6163	.6170	.6176	.6182
0.92	.5599	.5632	.5658	.5680	.5698	.5714	.5726	.5737	.5747	.5755	.5762	.5768	.5774	.5778	.5783	.5786
0.94	.5268	.5291	.5309	.5324	.5336	.5346	.5354	.5361	.5367	.5371	.5376	.5379	.5382	.5385	.5388	.5390
0.96	.4938	.4951	.4961	.4969	.4975	.4980	.4983	.4986	.4988	.4990	.4992	.4993	.4994	.4995	.4996	.4996
0.98	.4611	.4615	.4618	.4618	.4618	.4618	.4618	.4617	.4616	.4615	.4614	.4613	.4612	.4611	.4610	.4609
1.00	.4290	.4285	.4280	.4275	.4270	.4265	.4260	.4256	.4252	.4248	.4245	.4242	.4239	.4237	.4234	.4232
1.02	.3976	.3963	.3951	.3940	.3930	.3921	.3913	.3906	.3899	.3893	.3888	.3883	.3879	.3875	.3871	.3868
1.04	.3671	.3651	.3633	.3617	.3603	.3590	.3579	.3569	.3560	.3552	.3545	.3539	.3533	.3528	.3524	.3519
1.06	.3376	.3350	.3327	.3307	.3289	.3273	.3260	.3247	.3237	.3227	.3219	.3211	.3205	.3198	.3193	.3188
1.08	.3094	.3062	.3035	.3011	.2990	.2972	.2957	.2943	.2930	.2920	.2912	.2902	.2894	.2887	.2881	.2876
1.10	.2825	.2789	.2758	.2731	.2708	.2688	.2671	.2656	.2642	.2631	.2620	.2611	.2603	.2596	.2589	.2583
1.12	.2570	.2531	.2497	.2468	.2443	.2422	.2403	.2387	.2373	.2361	.2350	.2340	.2332	.2324	.2317	.2311

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A2

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 20% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50
1.14	.2330	.2288	.2252	.2222	.2196	.2173	.2154	.2138	.2123	.2110	.2099	.2089	.2080	.2073	.2066	.2059
1.16	.2105	.2061	.2024	.1992	.1966	.1943	.1924	.1907	.1892	.1879	.1868	.1858	.1849	.1842	.1835	.1828
1.18	.1895	.1850	.1812	.1781	.1754	.1731	.1712	.1695	.1680	.1668	.1657	.1647	.1638	.1630	.1623	.1617
1.20	.1700	.1655	.1617	.1586	.1559	.1537	.1518	.1501	.1487	.1475	.1464	.1454	.1446	.1438	.1432	.1426
1.22	.1520	.1475	.1438	.1407	.1382	.1360	.1341	.1325	.1311	.1299	.1289	.1280	.1272	.1265	.1258	.1252
1.24	.1355	.1311	.1275	.1245	.1220	.1199	.1181	.1166	.1153	.1141	.1131	.1123	.1115	.1108	.1102	.1097
1.26	.1204	.1161	.1126	.1095	.1067	.1044	.1023	.1004	.0987	.0974	.0960	.0948	.0934	.0924	.0916	.0907
1.28	.1066	.1025	.0992	.0965	.0942	.0924	.0908	.0894	.0882	.0872	.0864	.0856	.0849	.0843	.0838	.0833
1.30	.0941	.0903	.0871	.0846	.0825	.0807	.0792	.0779	.0769	.0759	.0751	.0744	.0738	.0732	.0727	.0723
1.32	.0829	.0792	.0763	.0739	.0719	.0703	.0689	.0677	.0667	.0659	.0651	.0645	.0639	.0634	.0630	.0626
1.34	.0728	.0693	.0666	.0644	.0626	.0611	.0598	.0587	.0578	.0570	.0563	.0558	.0552	.0548	.0544	.0540
1.36	.0637	.0605	.0580	.0560	.0543	.0529	.0518	.0508	.0499	.0492	.0486	.0481	.0476	.0472	.0468	.0465
1.38	.0556	.0527	.0504	.0485	.0470	.0457	.0447	.0438	.0430	.0424	.0418	.0414	.0409	.0406	.0402	.0399
1.40	.0484	.0458	.0436	.0419	.0406	.0394	.0385	.0377	.0370	.0364	.0359	.0355	.0351	.0348	.0345	.0342
1.42	.0421	.0396	.0377	.0362	.0349	.0339	.0331	.0323	.0317	.0312	.0308	.0304	.0300	.0297	.0295	.0292
1.44	.0364	.0342	.0325	.0311	.0300	.0291	.0283	.0277	.0272	.0267	.0263	.0260	.0257	.0254	.0252	.0250
1.46	.0315	.0295	.0280	.0267	.0257	.0249	.0242	.0237	.0232	.0228	.0224	.0221	.0219	.0216	.0214	.0212
1.48	.0272	.0254	.0240	.0229	.0220	.0213	.0207	.0202	.0198	.0194	.0191	.0188	.0186	.0184	.0182	.0181
1.50	.0234	.0218	.0205	.0196	.0188	.0181	.0176	.0172	.0168	.0165	.0162	.0160	.0158	.0156	.0154	.0153
1.60	.0107	.0098	.0092	.0087	.0083	.0080	.0077	.0075	.0073	.0071	.0070	.0069	.0068	.0067	.0066	.0066
1.70	.0047	.0043	.0039	.0037	.0035	.0034	.0032	.0031	.0030	.0030	.0029	.0029	.0028	.0028	.0027	.0027
1.80	.0020	.0018	.0016	.0015	.0014	.0014	.0013	.0013	.0012	.0012	.0012	.0012	.0011	.0011	.0011	.0011
1.90	.0008	.0007	.0007	.0006	.0006	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0004	.0004	.0004	.0004
2.00	.0003	.0003	.0003	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
2.10	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
∞	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



### OFFSET CIRCLE PROBABILITIES

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



A2

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 20% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50	20.00	$P_d$ $\infty$
1.30	.0727	.0723	.0719	.0716	.0712	.0710	.0707	.0705	.0702	.0700	.0699	.0697	.0695	.0694	.0693	.0647
1.32	.0630	.0626	.0622	.0619	.0616	.0613	.0611	.0609	.0607	.0605	.0603	.0602	.0601	.0599	.0598	.0575
1.34	.0544	.0540	.0537	.0534	.0531	.0529	.0527	.0525	.0523	.0521	.0520	.0518	.0517	.0516	.0515	.0494
1.36	.0468	.0465	.0462	.0459	.0457	.0455	.0453	.0451	.0450	.0448	.0447	.0445	.0444	.0443	.0442	.0424
1.38	.0402	.0399	.0397	.0394	.0392	.0390	.0389	.0387	.0386	.0384	.0383	.0382	.0381	.0380	.0379	.0362
1.40	.0345	.0342	.0340	.0338	.0336	.0334	.0333	.0331	.0330	.0329	.0328	.0327	.0326	.0325	.0324	.0309
1.42	.0295	.0292	.0290	.0289	.0287	.0285	.0284	.0283	.0282	.0281	.0280	.0279	.0278	.0277	.0276	.0263
1.44	.0252	.0250	.0248	.0246	.0245	.0243	.0242	.0241	.0240	.0239	.0238	.0237	.0236	.0235	.0234	.0224
1.46	.0214	.0212	.0211	.0209	.0208	.0207	.0206	.0205	.0204	.0203	.0202	.0202	.0201	.0200	.0199	.0190
1.48	.0182	.0181	.0179	.0178	.0177	.0176	.0175	.0174	.0173	.0172	.0172	.0171	.0171	.0170	.0169	.0161
1.50	.0154	.0153	.0152	.0151	.0150	.0149	.0148	.0147	.0147	.0146	.0145	.0145	.0144	.0144	.0144	.0136
1.52	.0131	.0130	.0129	.0128	.0127	.0126	.0125	.0125	.0124	.0123	.0123	.0123	.0122	.0122	.0121	.0115
1.54	.0111	.0110	.0109	.0108	.0107	.0106	.0106	.0105	.0105	.0104	.0104	.0103	.0103	.0103	.0102	.0097
1.56	.0093	.0092	.0092	.0091	.0090	.0090	.0089	.0089	.0088	.0088	.0087	.0087	.0087	.0087	.0086	.0081
1.58	.0079	.0078	.0077	.0077	.0076	.0075	.0075	.0075	.0074	.0074	.0074	.0073	.0073	.0073	.0073	.0068
1.60	.0066	.0066	.0065	.0064	.0064	.0063	.0063	.0063	.0062	.0062	.0062	.0062	.0061	.0061	.0061	.0057
1.62	.0056	.0055	.0055	.0054	.0054	.0053	.0053	.0053	.0052	.0052	.0052	.0052	.0051	.0051	.0051	.0048
1.64	.0047	.0046	.0046	.0045	.0045	.0045	.0044	.0044	.0044	.0044	.0043	.0043	.0043	.0043	.0043	.0040
1.66	.0039	.0039	.0038	.0038	.0038	.0037	.0037	.0037	.0037	.0037	.0036	.0036	.0036	.0036	.0036	.0034
1.68	.0033	.0032	.0032	.0032	.0032	.0031	.0031	.0031	.0031	.0031	.0030	.0030	.0030	.0030	.0030	.0028
1.70	.0027	.0027	.0027	.0027	.0026	.0026	.0026	.0026	.0026	.0026	.0025	.0025	.0025	.0025	.0025	.0023
1.72	.0023	.0023	.0022	.0022	.0022	.0022	.0022	.0022	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0019
1.74	.0019	.0019	.0019	.0018	.0018	.0018	.0018	.0018	.0018	.0018	.0018	.0018	.0018	.0017	.0017	.0016
1.76	.0016	.0016	.0016	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0013
1.78	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0011
1.80	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0011	.0009
1.82	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0008
1.84	.0008	.0008	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0006
1.86	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0005
1.88	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0004
1.90	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004
1.92	.0004	.0004	.0004	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003
1.94	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0002
1.96	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
1.98	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
2.00	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
2.02	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
2.04	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
2.06	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
2.08	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
2.10	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
2.12	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A3

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 30% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.70	0.80	0.90	1.00
0.00	.0017	.0069	.0154	.0272	.0420	.0597	.0799	.1026	.1273	.1538	.1817	.2109	.2717	.3346	.3961	.4566
0.10	.0017	.0069	.0154	.0272	.0420	.0596	.0799	.1025	.1271	.1535	.1814	.2104	.2709	.3329	.3946	.4546
0.20	.0017	.0069	.0154	.0271	.0418	.0593	.0794	.1016	.1258	.1517	.1788	.2069	.2661	.3282	.3898	.4485
0.30	.0017	.0069	.0154	.0271	.0417	.0591	.0789	.1009	.1247	.1499	.1763	.2039	.2619	.3242	.3854	.4429
0.40	.0017	.0069	.0154	.0270	.0416	.0586	.0784	.1000	.1233	.1486	.1751	.2021	.2593	.3216	.3824	.4399
0.50	.0017	.0069	.0153	.0269	.0414	.0584	.0777	.0989	.1216	.1455	.1722	.2001	.2564	.3187	.3791	.4366
0.60	.0017	.0069	.0153	.0268	.0411	.0579	.0769	.0976	.1196	.1426	.1663	.1902	.2464	.3086	.3681	.4256
0.70	.0017	.0069	.0153	.0267	.0409	.0574	.0760	.0961	.1173	.1394	.1618	.1843	.2399	.3020	.3611	.4186
0.80	.0017	.0069	.0152	.0266	.0406	.0569	.0754	.0944	.1148	.1358	.1569	.1778	.2324	.2944	.3531	.4106
0.90	.0017	.0068	.0152	.0264	.0403	.0562	.0738	.0926	.1121	.1319	.1516	.1708	.2242	.2860	.3444	.4019
1.00	.0017	.0068	.0151	.0263	.0399	.0555	.0726	.0906	.1091	.1277	.1459	.1634	.2152	.2766	.3346	.3911
1.10	.0017	.0068	.0151	.0261	.0395	.0548	.0713	.0885	.1060	.1232	.1399	.1557	.2059	.2670	.3246	.3801
1.20	.0017	.0068	.0150	.0260	.0391	.0539	.0698	.0863	.1027	.1186	.1337	.1477	.1957	.2564	.3137	.3681
1.30	.0017	.0068	.0150	.0258	.0387	.0531	.0684	.0839	.0992	.1138	.1273	.1396	.1857	.2457	.3026	.3561
1.40	.0017	.0068	.0149	.0256	.0382	.0522	.0668	.0814	.0956	.1088	.1213	.1326	.1777	.2370	.2934	.3469
1.50	.0017	.0068	.0148	.0253	.0377	.0512	.0652	.0789	.0919	.1038	.1142	.1239	.1677	.2264	.2824	.3359
1.60	.0017	.0068	.0147	.0251	.0372	.0502	.0635	.0763	.0881	.0986	.1075	.1147	.1577	.2157	.2711	.3246
1.70	.0017	.0067	.0147	.0249	.0367	.0492	.0617	.0736	.0843	.0935	.1009	.1066	.1487	.2057	.2601	.3136
1.80	.0017	.0067	.0146	.0246	.0361	.0481	.0599	.0708	.0804	.0883	.0943	.0986	.1397	.1957	.2491	.3016
1.90	.0017	.0067	.0145	.0244	.0355	.0470	.0581	.0681	.0765	.0831	.0879	.0917	.1317	.1867	.2391	.2906
2.00	.0017	.0067	.0143	.0238	.0343	.0447	.0543	.0624	.0688	.0731	.0754	.0760	.1157	.1697	.2211	.2716
2.20	.0017	.0067	.0141	.0232	.0330	.0423	.0504	.0568	.0612	.0634	.0638	.0626	.1017	.1547	.2051	.2546
2.40	.0017	.0066	.0139	.0226	.0316	.0399	.0466	.0513	.0536	.0544	.0532	.0507	.0897	.1417	.1911	.2396
2.60	.0017	.0065	.0137	.0220	.0302	.0374	.0427	.0459	.0469	.0461	.0437	.0404	.0797	.1307	.1791	.2266
2.80	.0017	.0065	.0134	.0213	.0288	.0349	.0389	.0408	.0405	.0385	.0354	.0316	.0707	.1207	.1681	.2146
3.00	.0017	.0064	.0132	.0206	.0273	.0324	.0353	.0359	.0346	.0318	.0283	.0243	.0617	.1107	.1571	.2026
3.20	.0017	.0064	.0129	.0200	.0258	.0309	.0337	.0333	.0322	.0290	.0252	.0209	.0527	.1017	.1471	.1916
3.40	.0017	.0063	.0126	.0191	.0244	.0275	.0284	.0271	.0245	.0207	.0172	.0130	.0437	.0927	.1371	.1806
3.60	.0017	.0062	.0123	.0184	.0229	.0252	.0252	.0233	.0203	.0167	.0132	.0090	.0347	.0837	.1271	.1696
3.80	.0017	.0062	.0120	.0176	.0214	.0230	.0222	.0199	.0166	.0131	.0094	.0052	.0257	.0747	.1171	.1586
4.00	.0017	.0060	.0113	.0157	.0179	.0178	.0158	.0128	.0097	.0068	.0046	.0029	.0167	.0657	.1071	.1476
4.20	.0017	.0058	.0105	.0138	.0147	.0134	.0108	.0079	.0055	.0033	.0019	.0011	.0003	.0001	.0000	.0000
4.40	.0016	.0056	.0097	.0119	.0118	.0098	.0071	.0046	.0027	.0015	.0007	.0004	.0001	.0000	.0000	.0000
4.60	.0016	.0054	.0089	.0102	.0093	.0070	.0045	.0026	.0013	.0006	.0003	.0001	.0000	.0000	.0000	.0000
4.80	.0016	.0052	.0080	.0086	.0076	.0054	.0027	.0013	.0006	.0002	.0001	.0000	.0000	.0000	.0000	.0000
5.00	.0016	.0049	.0072	.0072	.0054	.0032	.0016	.0007	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000
5.20	.0016	.0047	.0065	.0059	.0040	.0021	.0009	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000
5.40	.0015	.0044	.0057	.0048	.0029	.0013	.0005	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
5.60	.0015	.0042	.0051	.0038	.0020	.0008	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
5.80	.0015	.0039	.0044	.0030	.0014	.0005	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
6.00	.0015	.0037	.0038	.0023	.0009	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

## A3

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 30% WR

WEAPON RADIUS/CEP <sub>d</sub> (WR/CEP <sub>d</sub> )																	
	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	
0.00	5143	5686	6188	6648	7064	7438	7772	8068	8329	8557	8757	8931	9081	9212	9324	9421	
0.05	5137	5678	6179	6637	7053	7426	7759	8054	8314	8542	8742	8916	9066	9197	9310	9407	
0.10	5118	5658	6159	6616	7032	7404	7736	8030	8290	8517	8717	8891	9040	9171	9282	9379	
0.15	5086	5626	6126	6583	6999	7370	7701	8000	8260	8487	8687	8860	9009	9140	9250	9347	
0.20	5041	5579	6079	6536	6954	7325	7656	7954	8214	8441	8641	8814	8963	9094	9204	9301	
0.25	4984	5521	6021	6478	6896	7267	7598	7896	8156	8383	8583	8756	8905	9036	9146	9243	
0.30	4916	5453	5953	6410	6828	7199	7530	7828	8088	8315	8515	8688	8837	8968	9078	9175	
0.35	4836	5373	5873	6330	6748	7119	7450	7748	8008	8235	8435	8608	8757	8888	8998	9095	
0.40	4743	5280	5780	6237	6655	7026	7357	7655	7915	8142	8342	8515	8664	8795	8905	9002	
0.45	4645	5182	5682	6139	6557	6928	7259	7557	7817	8044	8244	8417	8566	8697	8807	8904	
0.50	4534	5071	5571	6028	6446	6817	7148	7446	7706	7933	8133	8306	8455	8586	8696	8793	
0.55	4416	4953	5453	5910	6328	6699	7030	7328	7588	7815	8015	8188	8337	8468	8578	8675	
0.60	4289	4826	5326	5783	6201	6572	6903	7201	7461	7688	7888	8061	8210	8341	8451	8548	
0.65	4155	4692	5192	5649	6067	6438	6769	7067	7327	7554	7754	7927	8076	8207	8317	8414	
0.70	4016	4553	5053	5510	5928	6299	6630	6928	7188	7415	7615	7788	7937	8068	8178	8275	
0.75	3870	4407	4907	5364	5782	6153	6484	6782	7042	7269	7469	7642	7791	7922	8032	8129	
0.80	3721	4258	4758	5215	5633	6004	6335	6633	6893	7120	7320	7493	7642	7773	7883	7980	
0.85	3568	4105	4605	5062	5480	5851	6182	6480	6740	6967	7167	7340	7489	7620	7730	7827	
0.90	3412	3949	4449	4906	5324	5695	6026	6324	6584	6811	6991	7140	7271	7392	7502	7599	
0.95	3255	3792	4292	4749	5167	5538	5869	6167	6427	6654	6844	6993	7124	7245	7355	7452	
1.00	3097	3634	4134	4591	5009	5380	5711	6009	6269	6496	6686	6835	6966	7087	7207	7317	
1.05	2939	3476	3976	4433	4851	5222	5553	5851	6111	6338	6528	6677	6808	6929	7049	7159	
1.10	2781	3318	3818	4275	4693	5064	5395	5693	5953	6180	6370	6519	6650	6771	6891	6998	
1.15	2625	3162	3662	4119	4537	4908	5239	5537	5797	6024	6214	6363	6494	6615	6735	6842	
1.20	2471	2998	3498	3955	4373	4744	5075	5373	5633	5860	6050	6200	6331	6452	6572	6679	
1.25	2320	2847	3347	3804	4222	4593	4924	5222	5482	5709	5899	6048	6179	6300	6419	6526	
1.30	2173	2699	3199	3656	4074	4445	4776	5074	5334	5561	5751	5900	6031	6152	6271	6378	
1.35	2029	2555	3055	3512	3930	4301	4632	4930	5190	5417	5607	5756	5887	6008	6127	6234	
1.40	1880	2406	2906	3363	3781	4152	4483	4781	5041	5268	5458	5607	5738	5859	5978	6085	
1.45	1735	2261	2761	3218	3636	4007	4338	4636	4896	5123	5313	5462	5593	5714	5833	5940	
1.50	1626	2152	2652	3109	3527	3898	4229	4527	4787	5014	5204	5353	5484	5605	5724	5831	
1.55	1562	2088	2588	3045	3463	3834	4165	4463	4723	4950	5140	5289	5420	5541	5660	5767	
1.60	1484	2010	2510	2967	3385	3756	4087	4385	4645	4872	5062	5211	5342	5463	5582	5689	
1.65	1421	1947	2447	2904	3322	3693	4024	4322	4582	4809	4999	5148	5279	5400	5519	5626	
1.70	1362	1888	2388	2845	3263	3634	3965	4263	4523	4750	4940	5089	5219	5340	5459	5566	
1.75	1308	1834	2334	2791	3209	3580	3911	4209	4469	4696	4886	5035	5165	5286	5405	5512	
1.80	1259	1785	2285	2742	3160	3531	3862	4160	4420	4647	4837	4986	5116	5237	5356	5463	
1.85	1215	1741	2241	2698	3116	3487	3818	4116	4376	4603	4793	4942	5072	5193	5312	5419	
1.90	1176	1702	2202	2659	3077	3448	3779	4077	4337	4564	4754	4903	5033	5154	5273	5380	
1.95	1142	1668	2168	2625	3043	3414	3745	4043	4303	4530	4720	4869	4999	5120	5239	5346	
2.00	1112	1638	2138	2595	2989	3360	3691	3989	4249	4476	4666	4815	4945	5066	5185	5292	
2.05	1088	1614	2114	2571	2956	3327	3658	3956	4216	4443	4633	4782	4912	5033	5152	5259	
2.10	1069	1595	2095	2552	2945	3316	3647	3945	4205	4432	4622	4771	4901	5022	5141	5248	
2.15	1055	1581	2081	2538	2931	3302	3633	3931	4191	4418	4608	4757	4887	5008	5127	5234	
2.20	1044	1570	2070	2527	2926	3297	3628	3926	4186	4413	4603	4752	4882	5003	5122	5229	
2.25	1036	1562	2062	2519	2923	3294	3625	3923	4183	4410	4600	4749	4879	5000	5119	5226	
2.30	1030	1556	2056	2513	2921	3292	3623	3921	4181	4408	4598	4747	4877	5000	5118	5225	
2.35	1026	1551	2051	2508	2920	3291	3622	3920	4180	4407	4597	4746	4876	5000	5117	5224	
2.40	1023	1548	2048	2505	2920	3291	3622	3920	4180	4407	4597	4746	4876	5000	5117	5224	
2.45	1021	1546	2046	2503	2920	3291	3622	3920	4180	4407	4597	4746	4876	5000	5117	5224	
2.50	1020	1545	2045	2502	2920	3291	3622	3920	4180	4407	4597	4746	4876	5000	5117	5224	

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A3

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 30% WR

		WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )															
		1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
2.50	.0199	.0153	.0118	.0092	.0072	.0057	.0047	.0038	.0032	.0028	.0024	.0021	.0019	.0017	.0015	.0014	
2.60	.0152	.0114	.0085	.0064	.0049	.0039	.0031	.0025	.0021	.0018	.0015	.0013	.0012	.0011	.0010	.0009	
2.70	.0115	.0083	.0061	.0045	.0034	.0026	.0020	.0016	.0013	.0011	.0010	.0009	.0008	.0007	.0006	.0006	
2.80	.0086	.0060	.0043	.0031	.0023	.0017	.0013	.0011	.0009	.0007	.0006	.0005	.0005	.0004	.0004	.0004	
2.90	.0064	.0043	.0030	.0021	.0015	.0011	.0009	.0007	.0006	.0005	.0004	.0003	.0003	.0003	.0002	.0002	
3.00	.0047	.0031	.0021	.0014	.0010	.0007	.0006	.0004	.0004	.0003	.0002	.0002	.0001	.0001	.0001	.0001	
3.10	.0034	.0022	.0014	.0009	.0007	.0005	.0004	.0003	.0003	.0002	.0001	.0001	.0001	.0001	.0001	.0001	
3.20	.0024	.0015	.0009	.0006	.0004	.0003	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.30	.0017	.0010	.0006	.0004	.0003	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.40	.0012	.0007	.0004	.0003	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.50	.0009	.0005	.0003	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.60	.0006	.0003	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.70	.0004	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.80	.0003	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.90	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
4.00	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
4.10	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
4.20	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
4.30	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
4.40	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
4.50	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



A3  
 OFFSET CIRCLE PROBABILITIES  
 DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 30% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	
	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60	
0.00	9421	9576	9690	9773	9834	9879	9911	9935	9952	9965	9974	9981	9986	9990	9992	9994	
0.05	9407	9563	9678	9763	9825	9871	9905	9929	9948	9961	9971	9978	9984	9988	9991	9993	
0.10	9366	9523	9644	9732	9798	9847	9884	9912	9932	9948	9960	9969	9976	9981	9985	9988	
0.15	9296	9460	9585	9679	9751	9805	9847	9880	9905	9924	9939	9951	9960	9968	9974	9979	
0.20	9198	9368	9499	9601	9680	9742	9791	9830	9866	9895	9921	9934	9944	9953	9960	9966	
0.25	9069	9241	9384	9495	9583	9653	9716	9756	9794	9825	9851	9872	9890	9905	9917	9928	
0.30	8908	9091	9238	9357	9454	9534	9600	9654	9700	9738	9771	9798	9822	9842	9859	9874	
0.35	8713	8903	9057	9184	9290	9379	9453	9517	9571	9617	9656	9691	9721	9747	9769	9789	
0.40	8489	8680	8839	8973	9086	9183	9266	9337	9399	9452	9499	9540	9576	9608	9637	9662	
0.45	8229	8421	8583	8721	8840	8942	9031	9109	9177	9237	9291	9338	9380	9417	9451	9481	
0.50	7936	8125	8287	8427	8548	8654	8747	8829	8902	8966	9024	9076	9122	9164	9202	9237	
0.52	7810	7997	8158	8298	8419	8525	8619	8702	8776	8841	8900	8953	9001	9044	9083	9119	
0.54	7679	7864	8023	8161	8282	8389	8483	8566	8640	8707	8767	8820	8869	8913	8953	8990	
0.56	7544	7725	7882	8019	8139	8244	8338	8421	8496	8562	8623	8677	8726	8770	8811	8848	
0.58	7404	7581	7735	7870	7988	8092	8185	8268	8342	8409	8468	8523	8572	8617	8657	8695	
0.60	7259	7432	7583	7714	7830	7933	8025	8106	8179	8245	8305	8358	8407	8452	8492	8529	
0.62	7110	7278	7425	7553	7666	7767	7856	7935	8008	8073	8131	8184	8232	8276	8316	8353	
0.64	6957	7120	7262	7386	7496	7594	7681	7758	7828	7891	7948	8000	8047	8090	8129	8165	
0.66	6801	6958	7094	7214	7320	7414	7498	7573	7641	7702	7757	7807	7852	7893	7931	7966	
0.68	6641	6791	6922	7037	7139	7229	7309	7381	7446	7504	7557	7605	7648	7688	7724	7757	
0.70	6478	6621	6746	6855	6952	7038	7114	7183	7244	7300	7350	7395	7436	7474	7508	7539	
0.72	6313	6448	6566	6670	6761	6842	6914	6979	7036	7089	7136	7178	7217	7252	7284	7313	
0.74	6145	6272	6383	6480	6566	6642	6709	6769	6823	6872	6915	6955	6991	7023	7053	7080	
0.76	5975	6094	6197	6288	6367	6438	6500	6556	6605	6650	6690	6726	6759	6789	6816	6840	
0.78	5803	5913	6009	6093	6166	6231	6288	6338	6384	6424	6461	6493	6523	6550	6574	6596	
0.80	5630	5731	5819	5896	5962	6021	6073	6118	6159	6195	6228	6257	6283	6306	6328	6347	
0.82	5455	5548	5628	5697	5757	5810	5856	5896	5932	5964	5992	6018	6040	6061	6079	6094	
0.84	5280	5364	5436	5497	5551	5597	5636	5673	5704	5731	5755	5777	5796	5814	5829	5843	
0.86	5107	5180	5243	5298	5344	5384	5418	5448	5475	5498	5518	5536	5552	5566	5579	5594	
0.88	4930	4996	5051	5098	5137	5171	5200	5225	5246	5265	5281	5295	5308	5319	5329	5337	
0.90	4756	4812	4859	4906	4931	4959	4982	5002	5018	5033	5045	5056	5065	5073	5080	5086	
0.92	4582	4630	4668	4706	4726	4748	4766	4780	4793	4803	4812	4819	4825	4830	4835	4838	
0.94	4409	4448	4479	4504	4523	4539	4552	4562	4570	4576	4581	4585	4588	4591	4592	4594	
0.96	4238	4269	4292	4310	4325	4333	4340	4346	4350	4352	4354	4355	4355	4355	4355	4354	
0.98	4069	4091	4107	4118	4125	4130	4133	4134	4134	4133	4131	4129	4127	4125	4122	4120	
1.00	3902	3916	3925	3929	3931	3931	3929	3926	3922	3918	3913	3909	3904	3900	3895	3891	
1.02	3737	3744	3746	3744	3741	3735	3729	3723	3715	3708	3701	3694	3688	3681	3675	3669	
1.04	3576	3575	3570	3563	3554	3545	3535	3524	3514	3504	3495	3486	3477	3469	3461	3454	
1.06	3417	3409	3398	3386	3373	3359	3345	3332	3319	3307	3295	3284	3274	3264	3255	3247	
1.08	3261	3247	3231	3213	3196	3178	3161	3145	3130	3116	3102	3089	3078	3067	3057	3047	
1.10	3109	3089	3067	3046	3024	3003	2984	2965	2947	2931	2916	2902	2889	2877	2866	2855	
1.12	2961	2935	2909	2883	2858	2834	2812	2791	2772	2754	2737	2722	2708	2695	2683	2672	

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A3

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 30% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60
1.14	.2816	.2783	.2754	.2725	.2697	.2671	.2646	.2624	.2603	.2583	.2566	.2550	.2535	.2521	.2509	.2497
1.16	.2673	.2640	.2605	.2573	.2542	.2513	.2487	.2463	.2441	.2420	.2402	.2385	.2370	.2355	.2342	.2331
1.18	.2539	.2499	.2461	.2426	.2393	.2364	.2334	.2309	.2286	.2263	.2246	.2228	.2212	.2198	.2184	.2172
1.20	.2407	.2363	.2322	.2284	.2249	.2217	.2188	.2162	.2138	.2116	.2097	.2079	.2063	.2048	.2033	.2022
1.22	.2279	.2232	.2189	.2149	.2112	.2079	.2049	.2022	.1997	.1975	.1955	.1937	.1921	.1906	.1893	.1880
1.24	.2153	.2106	.2060	.2019	.1981	.1947	.1916	.1889	.1864	.1841	.1821	.1803	.1787	.1772	.1759	.1746
1.26	.2036	.1984	.1937	.1894	.1853	.1821	.1790	.1762	.1737	.1715	.1695	.1677	.1660	.1646	.1632	.1620
1.28	.1922	.1868	.1819	.1775	.1736	.1701	.1670	.1642	.1617	.1595	.1575	.1557	.1541	.1527	.1513	.1502
1.30	.1812	.1756	.1707	.1662	.1622	.1587	.1556	.1528	.1504	.1482	.1462	.1445	.1429	.1415	.1402	.1390
1.32	.1706	.1650	.1599	.1554	.1515	.1480	.1449	.1421	.1397	.1375	.1356	.1339	.1324	.1310	.1297	.1286
1.34	.1605	.1548	.1497	.1452	.1413	.1378	.1347	.1320	.1296	.1275	.1256	.1240	.1225	.1211	.1199	.1188
1.36	.1508	.1451	.1400	.1355	.1316	.1282	.1252	.1225	.1202	.1181	.1163	.1147	.1132	.1119	.1108	.1097
1.38	.1416	.1358	.1308	.1263	.1225	.1191	.1162	.1136	.1113	.1093	.1076	.1060	.1046	.1033	.1022	.1012
1.40	.1328	.1270	.1220	.1177	.1139	.1106	.1077	.1052	.1030	.1011	.0994	.0979	.0965	.0953	.0943	.0933
1.42	.1244	.1187	.1138	.1095	.1058	.1026	.0998	.0974	.0952	.0934	.0918	.0903	.0890	.0879	.0869	.0859
1.44	.1165	.1108	.1059	.1018	.0981	.0950	.0924	.0900	.0880	.0862	.0846	.0833	.0820	.0809	.0800	.0791
1.46	.1089	.1034	.0986	.0945	.0910	.0880	.0854	.0832	.0812	.0795	.0780	.0767	.0755	.0745	.0736	.0728
1.48	.1018	.0963	.0916	.0877	.0843	.0814	.0789	.0768	.0749	.0733	.0719	.0706	.0695	.0685	.0677	.0669
1.50	.0950	.0897	.0851	.0813	.0780	.0752	.0729	.0708	.0690	.0675	.0661	.0650	.0639	.0630	.0622	.0614
1.60	.0665	.0619	.0581	.0550	.0524	.0502	.0484	.0468	.0455	.0443	.0433	.0424	.0417	.0410	.0404	.0398
1.70	.0456	.0419	.0389	.0365	.0346	.0330	.0316	.0305	.0295	.0287	.0280	.0273	.0268	.0263	.0259	.0255
1.80	.0307	.0279	.0257	.0239	.0225	.0214	.0204	.0196	.0189	.0184	.0179	.0175	.0171	.0168	.0165	.0162
1.90	.0204	.0183	.0167	.0155	.0145	.0137	.0131	.0125	.0121	.0117	.0114	.0111	.0108	.0106	.0104	.0103
2.00	.0133	.0119	.0108	.0099	.0093	.0087	.0083	.0079	.0076	.0074	.0072	.0070	.0068	.0067	.0066	.0065
2.10	.0086	.0076	.0069	.0063	.0059	.0055	.0052	.0050	.0048	.0046	.0045	.0044	.0043	.0042	.0041	.0041
2.20	.0055	.0049	.0044	.0040	.0037	.0035	.0033	.0032	.0030	.0029	.0028	.0028	.0027	.0026	.0026	.0025
2.30	.0035	.0031	.0028	.0025	.0023	.0022	.0021	.0020	.0019	.0018	.0018	.0017	.0017	.0017	.0016	.0016
2.40	.0022	.0020	.0018	.0016	.0015	.0014	.0013	.0012	.0012	.0012	.0011	.0011	.0011	.0010	.0010	.0010
2.50	.0014	.0012	.0011	.0010	.0009	.0009	.0008	.0008	.0007	.0007	.0007	.0007	.0007	.0007	.0006	.0006
2.60	.0009	.0008	.0007	.0006	.0006	.0005	.0005	.0005	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004
2.70	.0006	.0005	.0004	.0004	.0004	.0004	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0002
2.80	.0004	.0003	.0003	.0003	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
2.90	.0002	.0002	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.00	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.10	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.20	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.30	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.40	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.50	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.60	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.70	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.80	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A3

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) =

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50
0.00	.9997	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.05	.9996	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.10	.9993	.9996	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.15	.9983	.9991	.9994	.9996	.9997	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.20	.9971	.9980	.9986	.9990	.9993	.9995	.9996	.9997	.9998	.9998	.9998	.9999	.9999	.9999	.9999	.9999
0.25	.9943	.9959	.9969	.9977	.9982	.9986	.9988	.9991	.9992	.9994	.9995	.9996	.9997	.9997	.9997	.9997
0.30	.9898	.9921	.9937	.9949	.9958	.9965	.9970	.9975	.9978	.9981	.9983	.9985	.9987	.9988	.9989	.9990
0.35	.9822	.9854	.9878	.9897	.9911	.9923	.9932	.9940	.9946	.9951	.9955	.9959	.9962	.9965	.9967	.9969
0.40	.9765	.9787	.9781	.9807	.9828	.9845	.9859	.9871	.9881	.9889	.9896	.9902	.9908	.9912	.9916	.9920
0.45	.9534	.9586	.9628	.9662	.9690	.9714	.9733	.9749	.9763	.9775	.9786	.9795	.9803	.9810	.9816	.9821
0.50	.9297	.9358	.9408	.9448	.9482	.9511	.9535	.9556	.9573	.9589	.9602	.9614	.9624	.9633	.9641	.9649
0.55	.9181	.9245	.9297	.9340	.9376	.9406	.9432	.9454	.9473	.9489	.9504	.9516	.9527	.9537	.9546	.9554
0.60	.9053	.9119	.9173	.9218	.9255	.9287	.9314	.9337	.9357	.9374	.9389	.9403	.9415	.9425	.9434	.9443
0.65	.8913	.8981	.9036	.9082	.9120	.9153	.9181	.9204	.9225	.9243	.9259	.9273	.9285	.9296	.9306	.9314
0.70	.8769	.8828	.8884	.8931	.8970	.9003	.9031	.9056	.9077	.9095	.9111	.9126	.9138	.9149	.9159	.9168
0.75	.8623	.8673	.8719	.8766	.8805	.8838	.8867	.8891	.8912	.8931	.8947	.8961	.8974	.8985	.8995	.9004
0.80	.8477	.8525	.8570	.8616	.8655	.8686	.8711	.8732	.8750	.8766	.8779	.8793	.8804	.8814	.8823	.8832
0.85	.8328	.8374	.8418	.8463	.8501	.8535	.8563	.8585	.8609	.8625	.8640	.8653	.8666	.8676	.8685	.8694
0.90	.8176	.8221	.8266	.8311	.8355	.8393	.8431	.8463	.8491	.8515	.8535	.8553	.8569	.8583	.8596	.8606
0.95	.8027	.8071	.8114	.8157	.8203	.8255	.8304	.8344	.8384	.8424	.8457	.8483	.8508	.8532	.8554	.8575
1.00	.7876	.7926	.7966	.7998	.8033	.8073	.8108	.8143	.8178	.8215	.8244	.8273	.8302	.8332	.8362	.8392
1.05	.7726	.7771	.7811	.7848	.7883	.7919	.7954	.7989	.8024	.8059	.8094	.8129	.8164	.8199	.8234	.8269
1.10	.7576	.7612	.7647	.7682	.7717	.7751	.7783	.7815	.7846	.7876	.7906	.7936	.7965	.7994	.8023	.8052
1.15	.7426	.7462	.7497	.7532	.7567	.7599	.7630	.7660	.7690	.7719	.7748	.7777	.7806	.7835	.7864	.7893
1.20	.7276	.7312	.7347	.7382	.7417	.7450	.7483	.7515	.7546	.7576	.7606	.7635	.7664	.7693	.7722	.7751
1.25	.7126	.7162	.7197	.7232	.7267	.7299	.7330	.7360	.7390	.7419	.7448	.7477	.7506	.7535	.7564	.7593
1.30	.6976	.7012	.7047	.7082	.7117	.7149	.7179	.7209	.7238	.7267	.7296	.7325	.7354	.7383	.7412	.7441
1.35	.6826	.6862	.6897	.6932	.6967	.7000	.7030	.7060	.7089	.7118	.7147	.7176	.7205	.7234	.7263	.7292
1.40	.6676	.6712	.6747	.6782	.6817	.6849	.6879	.6909	.6938	.6967	.6996	.7025	.7054	.7083	.7112	.7141
1.45	.6526	.6562	.6597	.6632	.6667	.6699	.6729	.6759	.6788	.6817	.6846	.6875	.6904	.6933	.6962	.6991
1.50	.6376	.6412	.6447	.6482	.6517	.6549	.6579	.6609	.6638	.6667	.6696	.6725	.6754	.6783	.6812	.6841
1.55	.6226	.6262	.6297	.6332	.6367	.6399	.6429	.6459	.6488	.6517	.6546	.6575	.6604	.6633	.6662	.6691
1.60	.6076	.6112	.6147	.6182	.6217	.6249	.6279	.6309	.6338	.6367	.6396	.6425	.6454	.6483	.6512	.6541
1.65	.5926	.5962	.5997	.6032	.6067	.6099	.6129	.6159	.6188	.6217	.6246	.6275	.6304	.6333	.6362	.6391
1.70	.5776	.5812	.5847	.5882	.5917	.5949	.5979	.6009	.6038	.6067	.6096	.6125	.6154	.6183	.6212	.6241
1.75	.5626	.5662	.5697	.5732	.5767	.5799	.5829	.5859	.5888	.5917	.5946	.5975	.6004	.6033	.6062	.6091
1.80	.5476	.5512	.5547	.5582	.5617	.5649	.5679	.5709	.5738	.5767	.5796	.5825	.5854	.5883	.5912	.5941
1.85	.5326	.5362	.5397	.5432	.5467	.5499	.5529	.5559	.5588	.5617	.5646	.5675	.5704	.5733	.5762	.5791
1.90	.5176	.5212	.5247	.5282	.5317	.5349	.5379	.5409	.5438	.5467	.5496	.5525	.5554	.5583	.5612	.5641
1.95	.5026	.5062	.5097	.5132	.5167	.5199	.5229	.5259	.5288	.5317	.5346	.5375	.5404	.5433	.5462	.5491
2.00	.4876	.4912	.4947	.4982	.5017	.5049	.5079	.5109	.5138	.5167	.5196	.5225	.5254	.5283	.5312	.5341
2.05	.4726	.4762	.4797	.4832	.4867	.4899	.4929	.4959	.4988	.5017	.5046	.5075	.5104	.5133	.5162	.5191
2.10	.4576	.4612	.4647	.4682	.4717	.4749	.4779	.4809	.4838	.4867	.4896	.4925	.4954	.4983	.5012	.5041
2.15	.4426	.4462	.4497	.4532	.4567	.4599	.4629	.4659	.4688	.4717	.4746	.4775	.4804	.4833	.4862	.4891
2.20	.4276	.4312	.4347	.4382	.4417	.4449	.4479	.4509	.4538	.4567	.4596	.4625	.4654	.4683	.4712	.4741
2.25	.4126	.4162	.4197	.4232	.4267	.4299	.4329	.4359	.4388	.4417	.4446	.4475	.4504	.4533	.4562	.4591
2.30	.3976	.4012	.4047	.4082	.4117	.4149	.4179	.4209	.4238	.4267	.4296	.4325	.4354	.4383	.4412	.4441
2.35	.3826	.3862	.3897	.3932	.3967	.3999	.4029	.4059	.4088	.4117	.4146	.4175	.4204	.4233	.4262	.4291
2.40	.3676	.3712	.3747	.3782	.3817	.3849	.3879	.3909	.3938	.3967	.3996	.4025	.4054	.4083	.4112	.4141
2.45	.3526	.3562	.3597	.3632	.3667	.3699	.3729	.3759	.3788	.3817	.3846	.3875	.3904	.3933	.3962	.3991
2.50	.3376	.3412	.3447	.3482	.3517	.3549	.3579	.3609	.3638	.3667	.3696	.3725	.3754	.3783	.3812	.3841
2.55	.3226	.3262	.3297	.3332	.3367	.3399	.3429	.3459	.3488	.3517	.3546	.3575	.3604	.3633	.3662	.3691
2.60	.3076	.3112	.3147	.3182	.3217	.3249	.3279	.3309	.3338	.3367	.3396	.3425	.3454	.3483	.3512	.3541
2.65	.2926	.2962	.2997	.3032	.3067	.3099	.3129	.3159	.3188	.3217	.3246	.3275	.3304	.3333	.3362	.3391
2.70	.2776	.2812	.2847	.2882	.2917	.2949	.2979	.3009	.3038	.3067	.3096	.3125	.3154	.3183	.3212	.3241
2.75	.2626	.2662	.2697	.2732	.2767	.2799	.2829	.2859	.2888	.2917	.2946	.2975	.3004	.3033	.3062	.3091
2.80	.2476	.2512	.2547	.2582	.2617	.2649	.2679	.2709	.2738	.2767	.2796	.2825	.2854	.2883	.2912	.2941
2.85	.2326	.2362	.2397	.2432	.2467	.2499	.2529	.2559	.2588	.2617	.2646	.2675	.2704	.2733	.2762	.2791
2.90	.2176	.2212	.2247	.2282	.2317	.2349	.2379	.2409	.2438	.2467	.2496	.2525	.2554	.2583	.2612	.2641
2.95	.2026	.2062	.2097	.2132	.2167	.2199	.2229	.2259	.2288	.2317	.2346	.2375	.2404	.2433	.2462	.2491
3.00	.1876	.1912	.1947	.1982	.2017	.2049	.2079	.2109	.2138	.2167	.2196	.2225	.2254	.2283	.2312	.2341
3.05	.1726	.1762	.1797	.1832	.1867	.1899	.1929	.1959	.1988	.2017	.2046	.2075	.2104	.2133	.2162	.2191
3.10	.1576	.1612	.1647	.1682	.1717	.1749	.1779	.1809	.1838	.1867	.1896	.1925	.1954	.1983	.2012	.2041
3.15	.1426	.1462	.1497	.1532	.1567	.1599	.1629	.1659	.1688	.1717	.1746	.1775	.1804	.1833	.1862	.1891
3.20	.1276	.1312	.1347	.1382	.1417	.1449	.1479	.1509	.1538	.1567	.1596	.1625	.1654	.1683	.1712	.1741
3.25	.1126	.1162	.1197	.1232	.1267	.1299	.1329	.1359	.1388	.1417	.1446	.1475	.1504	.1533	.1562	.1591
3.30	.1076	.1112	.1147	.1182	.1217	.1249	.1279	.1309	.1338	.1367	.1396	.1425	.1454	.1483	.1512	.1541
3.35	.1026	.1062	.1097	.1132	.1167	.1199	.1229	.1259	.1288	.1317	.1346	.1375	.1404	.1433	.1462	.1491
3.40	.0976	.1012	.1047	.1082	.1117	.1149	.1179	.1209	.1238	.1267	.1296	.1325	.1354	.1383	.1412	.1441
3.45	.0926	.0962	.0997	.1032	.1067	.1099	.1129	.1159	.1188	.1217	.1246	.1275	.1304	.1333	.1362	.1391
3.50	.0876	.0912	.0947	.0982	.1017	.1049	.1079	.1109	.1138	.1167	.1196	.1225	.1254	.1283	.1312	.1341
3.55	.0826	.0862	.0897	.0932	.0967	.0999	.1029	.1059	.1088	.1117	.1146	.1175	.1204	.1233	.1262	.1291
3.60	.0776	.0812	.0847	.0882	.0917	.0949	.0979	.1009	.1038	.1067	.1096	.1125	.1154	.1183	.1212	.1241
3.65	.0726	.0762	.0797	.0832	.0867	.0899	.0929	.0959	.0988	.1017	.1046	.1075	.1104	.1133	.1162	.1191
3.70	.0676	.0712	.0747	.0782	.0817	.0849	.0879	.0909	.0938	.0967	.0996	.1025	.1054	.1083	.1112	.1141
3.75	.0626	.0662	.0697	.0732	.0767	.0799	.0829	.0859	.0888	.0917	.0946					

A3

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 30% WR

	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50
1.14	.2477	.2456	.2438	.2424	.2411	.2401	.2392	.2385	.2378	.2373	.2368	.2364	.2360	.2356	.2353	.2351
1.16	.2319	.2288	.2270	.2255	.2243	.2233	.2224	.2216	.2210	.2204	.2199	.2195	.2191	.2187	.2184	.2182
1.18	.2151	.2129	.2111	.2096	.2084	.2073	.2064	.2057	.2050	.2045	.2040	.2035	.2032	.2028	.2025	.2023
1.20	.2001	.1979	.1961	.1946	.1933	.1923	.1914	.1907	.1900	.1895	.1890	.1886	.1882	.1878	.1876	.1873
1.22	.1859	.1837	.1819	.1804	.1792	.1782	.1773	.1766	.1759	.1754	.1749	.1745	.1741	.1738	.1735	.1732
1.24	.1725	.1703	.1686	.1671	.1659	.1649	.1641	.1633	.1627	.1622	.1617	.1613	.1610	.1606	.1604	.1601
1.26	.1599	.1578	.1561	.1546	.1535	.1525	.1517	.1510	.1504	.1498	.1494	.1490	.1486	.1483	.1481	.1478
1.28	.1481	.1460	.1443	.1430	.1418	.1409	.1401	.1394	.1388	.1383	.1379	.1375	.1371	.1368	.1366	.1363
1.30	.1370	.1350	.1334	.1320	.1309	.1300	.1292	.1286	.1280	.1275	.1271	.1267	.1264	.1261	.1259	.1256
1.32	.1267	.1247	.1231	.1218	.1208	.1199	.1191	.1185	.1180	.1175	.1171	.1167	.1164	.1162	.1159	.1157
1.34	.1170	.1151	.1135	.1123	.1113	.1105	.1097	.1091	.1086	.1082	.1078	.1075	.1072	.1069	.1067	.1065
1.36	.1079	.1061	.1046	.1033	.1023	.1015	.1007	.1001	.0999	.0995	.0992	.0988	.0986	.0983	.0981	.0979
1.38	.0995	.0978	.0964	.0952	.0943	.0935	.0929	.0924	.0919	.0915	.0911	.0908	.0906	.0903	.0901	.0899
1.40	.0917	.0900	.0887	.0876	.0867	.0860	.0854	.0849	.0844	.0841	.0837	.0834	.0832	.0830	.0828	.0826
1.42	.0844	.0828	.0813	.0803	.0797	.0790	.0784	.0779	.0775	.0772	.0769	.0766	.0763	.0761	.0760	.0758
1.44	.0776	.0761	.0749	.0740	.0732	.0725	.0720	.0715	.0711	.0708	.0705	.0703	.0700	.0698	.0697	.0695
1.46	.0713	.0699	.0688	.0679	.0672	.0666	.0660	.0656	.0652	.0649	.0647	.0644	.0642	.0640	.0639	.0637
1.48	.0635	.0622	.0612	.0603	.0596	.0590	.0586	.0582	.0579	.0576	.0573	.0570	.0568	.0567	.0565	.0564
1.50	.0602	.0589	.0579	.0571	.0565	.0559	.0555	.0551	.0548	.0545	.0543	.0541	.0539	.0537	.0536	.0534
1.60	.0389	.0380	.0373	.0368	.0363	.0359	.0356	.0353	.0351	.0349	.0348	.0346	.0345	.0344	.0343	.0342
1.70	.0249	.0243	.0238	.0234	.0231	.0229	.0226	.0225	.0223	.0222	.0221	.0220	.0219	.0218	.0217	.0217
1.80	.0158	.0154	.0151	.0148	.0146	.0144	.0143	.0142	.0141	.0140	.0139	.0139	.0138	.0138	.0137	.0137
1.90	.0100	.0097	.0095	.0093	.0092	.0091	.0090	.0089	.0089	.0088	.0087	.0087	.0087	.0086	.0086	.0086
2.00	.0063	.0061	.0060	.0059	.0058	.0057	.0056	.0056	.0055	.0055	.0055	.0055	.0054	.0054	.0054	.0054
2.10	.0039	.0038	.0037	.0037	.0036	.0036	.0035	.0035	.0035	.0035	.0034	.0034	.0034	.0034	.0034	.0034
2.20	.0025	.0024	.0023	.0023	.0023	.0022	.0022	.0022	.0022	.0022	.0021	.0021	.0021	.0021	.0021	.0021
2.30	.0015	.0015	.0015	.0014	.0014	.0014	.0014	.0014	.0014	.0014	.0013	.0013	.0013	.0013	.0013	.0013
2.40	.0010	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0008	.0008	.0008	.0008	.0008	.0008	.0008
2.50	.0006	.0006	.0006	.0006	.0006	.0006	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005
2.60	.0004	.0004	.0004	.0004	.0004	.0004	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003
2.70	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
2.80	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
2.90	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.00	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
3.10	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
3.20	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
3.30	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
3.40	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
3.50	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
3.60	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
3.70	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
3.80	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 30% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	
		13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50	20.00	∞
0.00	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.20	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.25	.9997	.9997	.9997	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9999
0.30	.9989	.9990	.9991	.9992	.9992	.9992	.9993	.9993	.9994	.9994	.9994	.9995	.9995	.9995	.9995	.9995	.9999
0.32	.9983	.9984	.9985	.9986	.9987	.9988	.9988	.9989	.9989	.9990	.9990	.9991	.9991	.9991	.9992	.9992	.9997
0.34	.9973	.9975	.9977	.9978	.9979	.9980	.9981	.9982	.9982	.9983	.9983	.9984	.9985	.9985	.9986	.9986	.9993
0.36	.9960	.9962	.9964	.9966	.9968	.9969	.9970	.9972	.9972	.9973	.9973	.9974	.9975	.9976	.9976	.9977	.9987
0.38	.9941	.9944	.9947	.9949	.9951	.9953	.9955	.9956	.9956	.9958	.9959	.9960	.9961	.9962	.9963	.9964	.9978
0.40	.9916	.9920	.9923	.9926	.9929	.9931	.9933	.9935	.9937	.9937	.9938	.9940	.9941	.9942	.9943	.9944	.9963
0.42	.9884	.9888	.9892	.9895	.9898	.9901	.9904	.9906	.9908	.9908	.9910	.9912	.9913	.9915	.9916	.9917	.9941
0.44	.9841	.9846	.9851	.9855	.9859	.9862	.9865	.9868	.9870	.9872	.9875	.9876	.9876	.9878	.9880	.9881	.9910
0.46	.9783	.9794	.9799	.9804	.9808	.9812	.9815	.9818	.9821	.9824	.9826	.9829	.9829	.9831	.9833	.9834	.9868
0.48	.9722	.9738	.9744	.9749	.9753	.9756	.9759	.9762	.9765	.9768	.9770	.9772	.9773	.9775	.9776	.9777	.9814
0.50	.9641	.9649	.9653	.9661	.9667	.9671	.9676	.9680	.9683	.9687	.9690	.9693	.9695	.9698	.9699	.9700	.9744
0.52	.9546	.9554	.9561	.9567	.9573	.9578	.9583	.9588	.9592	.9595	.9599	.9602	.9604	.9606	.9607	.9610	.9658
0.54	.9434	.9443	.9450	.9457	.9463	.9469	.9474	.9479	.9483	.9487	.9490	.9494	.9497	.9500	.9502	.9504	.9554
0.56	.9306	.9314	.9322	.9329	.9336	.9342	.9347	.9352	.9356	.9360	.9364	.9368	.9371	.9374	.9376	.9376	.9431
0.58	.9159	.9168	.9176	.9184	.9190	.9196	.9202	.9207	.9211	.9215	.9219	.9223	.9226	.9229	.9232	.9232	.9288
0.60	.8995	.9004	.9013	.9020	.9027	.9033	.9038	.9043	.9048	.9052	.9056	.9060	.9063	.9066	.9069	.9075	.9125
0.62	.8814	.8823	.8831	.8838	.8845	.8851	.8857	.8862	.8866	.8870	.8874	.8878	.8881	.8884	.8887	.8893	.8943
0.64	.8616	.8623	.8633	.8640	.8646	.8652	.8657	.8662	.8667	.8671	.8675	.8678	.8681	.8684	.8687	.8693	.8741
0.66	.8402	.8410	.8418	.8425	.8431	.8436	.8441	.8446	.8450	.8454	.8458	.8461	.8464	.8467	.8470	.8476	.8522
0.68	.8173	.8180	.8188	.8194	.8200	.8205	.8210	.8215	.8219	.8222	.8226	.8229	.8232	.8235	.8237	.8246	.8286
0.70	.7930	.7937	.7944	.7950	.7955	.7960	.7965	.7969	.7973	.7976	.7979	.7982	.7985	.7988	.7990	.7996	.8035
0.72	.7675	.7682	.7688	.7694	.7699	.7703	.7707	.7711	.7714	.7717	.7720	.7723	.7726	.7728	.7730	.7737	.7771
0.74	.7410	.7416	.7422	.7427	.7431	.7435	.7439	.7442	.7445	.7448	.7451	.7453	.7456	.7458	.7459	.7466	.7496
0.76	.7137	.7142	.7147	.7151	.7155	.7159	.7162	.7165	.7168	.7170	.7173	.7175	.7177	.7178	.7180	.7186	.7212
0.78	.6857	.6861	.6865	.6869	.6873	.6876	.6879	.6881	.6883	.6885	.6887	.6889	.6891	.6892	.6894	.6902	.6922
0.80	.6572	.6576	.6579	.6582	.6585	.6588	.6590	.6592	.6594	.6596	.6598	.6599	.6600	.6602	.6603	.6626	.6646
0.82	.6284	.6287	.6290	.6293	.6295	.6297	.6299	.6301	.6302	.6304	.6305	.6306	.6307	.6308	.6309	.6327	.6347
0.84	.5995	.5998	.6000	.6002	.6003	.6005	.6006	.6008	.6009	.6010	.6011	.6012	.6013	.6014	.6014	.6028	.6048
0.86	.5707	.5709	.5710	.5711	.5713	.5714	.5715	.5716	.5717	.5717	.5718	.5719	.5719	.5720	.5720	.5730	.5750
0.88	.5421	.5422	.5423	.5423	.5424	.5425	.5426	.5426	.5427	.5427	.5427	.5428	.5428	.5429	.5429	.5435	.5455
0.90	.5138	.5138	.5139	.5139	.5140	.5140	.5140	.5140	.5141	.5141	.5141	.5141	.5141	.5141	.5142	.5148	.5168
0.92	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4860	.4869	.4889
0.94	.4588	.4588	.4587	.4587	.4586	.4586	.4586	.4586	.4585	.4585	.4585	.4584	.4584	.4584	.4584	.4593	.4613
0.96	.4324	.4323	.4322	.4321	.4320	.4320	.4319	.4318	.4318	.4317	.4317	.4316	.4316	.4316	.4316	.4325	.4345
0.98	.4067	.4065	.4064	.4063	.4062	.4061	.4060	.4060	.4059	.4058	.4058	.4057	.4056	.4056	.4056	.4065	.4085
1.00	.3818	.3817	.3815	.3814	.3813	.3812	.3811	.3810	.3809	.3808	.3807	.3806	.3805	.3805	.3805	.3814	.3834
1.02	.3579	.3577	.3576	.3574	.3573	.3571	.3570	.3569	.3568	.3567	.3566	.3565	.3564	.3564	.3564	.3573	.3593
1.04	.3350	.3348	.3346	.3344	.3342	.3341	.3340	.3338	.3337	.3336	.3335	.3334	.3333	.3333	.3333	.3343	.3363
1.06	.3130	.3128	.3126	.3124	.3122	.3121	.3119	.3118	.3117	.3116	.3115	.3114	.3113	.3112	.3112	.3121	.3141

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A3

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 30% WR

		WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )										P <sub>d</sub>					
		13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50	20.00	∞
1.08	2921	2918	2916	2914	2912	2911	2909	2908	2906	2905	2904	2903	2902	2901	2901	2901	2885
1.10	2722	2719	2717	2715	2713	2711	2709	2708	2707	2705	2704	2703	2702	2701	2701	2701	2685
1.12	2532	2530	2527	2525	2523	2521	2520	2518	2517	2516	2515	2514	2513	2512	2512	2511	2495
1.14	2353	2351	2348	2346	2344	2342	2341	2339	2338	2337	2336	2334	2333	2332	2332	2332	2315
1.16	2184	2182	2179	2177	2175	2173	2172	2170	2169	2168	2166	2165	2164	2163	2163	2163	2146
1.18	2025	2023	2020	2018	2016	2014	2013	2011	2010	2009	2007	2006	2005	2004	2004	2004	1988
1.20	1876	1873	1870	1868	1866	1865	1863	1862	1860	1859	1858	1857	1856	1855	1854	1854	1839
1.22	1735	1732	1730	1728	1726	1724	1723	1721	1720	1719	1718	1717	1716	1715	1714	1714	1699
1.24	1604	1601	1599	1597	1595	1593	1592	1590	1589	1588	1587	1586	1585	1584	1583	1583	1568
1.26	1481	1478	1476	1474	1472	1471	1469	1468	1466	1465	1464	1463	1463	1462	1461	1461	1446
1.28	1366	1363	1361	1359	1358	1356	1355	1353	1352	1351	1350	1349	1348	1348	1348	1347	1333
1.30	1259	1256	1254	1253	1251	1249	1248	1246	1245	1244	1243	1242	1241	1241	1241	1241	1227
1.32	1159	1157	1155	1153	1152	1150	1149	1147	1146	1145	1144	1143	1142	1142	1142	1142	1129
1.34	1067	1065	1063	1061	1060	1058	1057	1055	1054	1053	1052	1051	1050	1050	1050	1050	1038
1.36	981	979	977	976	974	973	972	971	970	969	968	967	966	966	966	966	954
1.38	901	899	897	896	895	894	893	892	891	890	889	888	887	887	887	887	876
1.40	828	826	824	823	822	821	820	819	818	817	816	815	814	814	814	814	803
1.42	760	758	756	755	754	753	752	751	750	749	748	747	746	746	746	746	737
1.44	697	695	694	693	692	691	690	689	688	687	686	685	684	684	684	684	675
1.46	639	637	636	635	634	633	632	631	630	629	628	627	626	626	626	626	619
1.48	585	583	582	581	580	579	578	577	576	575	574	573	572	572	572	572	566
1.50	536	534	533	532	531	530	529	528	527	526	525	524	523	523	523	523	518
1.52	490	488	487	486	485	484	483	482	481	480	479	478	477	477	477	477	474
1.54	449	448	447	446	445	444	443	442	441	440	439	438	437	437	437	437	433
1.56	410	409	408	407	406	405	404	403	402	401	400	399	398	398	398	398	396
1.58	375	374	373	372	371	370	369	368	367	366	365	364	363	363	363	363	362
1.60	343	342	341	340	339	338	337	336	335	334	333	332	331	331	331	331	330
1.62	313	312	311	310	309	308	307	306	305	304	303	302	301	301	301	301	300
1.64	286	285	284	283	282	281	280	279	278	277	276	275	274	274	274	274	273
1.66	261	260	259	258	257	256	255	254	253	252	251	250	249	249	249	249	248
1.68	238	237	236	235	234	233	232	231	230	229	228	227	226	226	226	226	225
1.70	217	216	215	214	213	212	211	210	209	208	207	206	205	205	205	205	204
1.72	198	197	196	195	194	193	192	191	190	189	188	187	186	186	186	186	185
1.74	181	180	179	178	177	176	175	174	173	172	171	170	169	169	169	169	168
1.76	165	164	163	162	161	160	159	158	157	156	155	154	153	153	153	153	152
1.78	150	149	148	147	146	145	144	143	142	141	140	139	138	138	138	138	137
1.80	137	136	135	134	133	132	131	130	129	128	127	126	125	125	125	125	124
1.82	125	124	123	122	121	120	119	118	117	116	115	114	113	113	113	113	112
1.84	114	113	112	111	110	109	108	107	106	105	104	103	102	102	102	102	101
1.86	104	103	102	101	100	99	98	97	96	95	94	93	92	92	92	92	91
1.88	94	93	92	91	90	89	88	87	86	85	84	83	82	82	82	82	81
1.90	86	85	84	83	82	81	80	79	78	77	76	75	74	74	74	74	73

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A3

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 30% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	P <sub>d</sub>
RADIUS (D/WR)	13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50	20.00	C	
1.92	.0078	.0078	.0078	.0078	.0078	.0077	.0077	.0077	.0077	.0077	.0077	.0077	.0077	.0077	.0077	.0075	
1.94	.0071	.0071	.0071	.0071	.0071	.0071	.0070	.0070	.0070	.0070	.0070	.0070	.0070	.0070	.0070	.0069	
1.96	.0063	.0063	.0063	.0063	.0064	.0064	.0064	.0064	.0064	.0064	.0064	.0064	.0064	.0064	.0064	.0062	
1.98	.0059	.0059	.0059	.0059	.0059	.0058	.0058	.0058	.0058	.0058	.0058	.0058	.0058	.0058	.0058	.0057	
2.00	.0054	.0054	.0054	.0053	.0053	.0053	.0053	.0053	.0053	.0053	.0053	.0053	.0053	.0053	.0053	.0052	
2.10	.0034	.0034	.0034	.0033	.0033	.0033	.0033	.0033	.0033	.0033	.0033	.0033	.0033	.0033	.0033	.0032	
2.20	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0021	.0020	
2.30	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	
2.40	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	
2.50	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	
2.60	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	
2.70	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	
2.80	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
2.90	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.00	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
3.10	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
3.20	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	

A4

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 40% WR

		WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																
		0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.70	0.80	0.90	1.00	
0.00	.0017	.0069	.0154	.0270	.0415	.0588	.0784	.1001	.1235	.1485	.1746	.2016	.2293	.2573	.2856	.3137	.3426	
0.10	.0017	.0069	.0154	.0270	.0415	.0587	.0783	.1000	.1234	.1483	.1743	.2012	.2291	.2566	.2847	.3127	.3408	
0.20	.0017	.0069	.0153	.0269	.0414	.0586	.0781	.0997	.1229	.1476	.1734	.2000	.2276	.2546	.2821	.3094	.3368	
0.30	.0017	.0069	.0153	.0269	.0414	.0585	.0778	.0992	.1222	.1465	.1719	.1979	.2251	.2516	.2785	.3053	.3322	
0.40	.0017	.0069	.0153	.0269	.0414	.0582	.0774	.0985	.1211	.1450	.1698	.1951	.2216	.2468	.2726	.2982	.3237	
0.50	.0017	.0069	.0153	.0268	.0411	.0579	.0769	.0976	.1198	.1430	.1671	.1916	.2141	.2367	.2597	.2824	.3050	
0.60	.0017	.0069	.0153	.0267	.0409	.0575	.0762	.0965	.1181	.1407	.1639	.1874	.2084	.2297	.2508	.2716	.2922	
0.70	.0017	.0069	.0152	.0266	.0407	.0571	.0754	.0953	.1163	.1380	.1602	.1825	.2025	.2218	.2404	.2584	.2759	
0.80	.0017	.0069	.0152	.0265	.0404	.0566	.0745	.0939	.1141	.1350	.1560	.1770	.1958	.2128	.2289	.2445	.2595	
0.90	.0017	.0068	.0152	.0264	.0402	.0560	.0735	.0923	.1117	.1316	.1514	.1710	.1884	.2044	.2195	.2341	.2482	
1.00	.0017	.0068	.0151	.0263	.0398	.0554	.0725	.0905	.1091	.1279	.1465	.1645	.1817	.1984	.2138	.2286	.2428	
1.10	.0017	.0068	.0151	.0261	.0395	.0547	.0713	.0886	.1063	.1240	.1412	.1577	.1737	.1892	.2033	.2169	.2300	
1.20	.0017	.0068	.0150	.0260	.0391	.0540	.0700	.0866	.1033	.1198	.1356	.1505	.1648	.1785	.1915	.2039	.2158	
1.30	.0017	.0068	.0150	.0259	.0387	.0532	.0686	.0845	.1002	.1154	.1298	.1435	.1565	.1687	.1801	.1908	.2010	
1.40	.0017	.0068	.0149	.0258	.0383	.0524	.0672	.0822	.0969	.1108	.1238	.1354	.1465	.1569	.1666	.1756	.1839	
1.50	.0017	.0068	.0148	.0254	.0378	.0515	.0657	.0799	.0935	.1062	.1176	.1277	.1365	.1446	.1521	.1589	.1651	
1.60	.0017	.0068	.0148	.0252	.0373	.0506	.0641	.0774	.0900	.1014	.1114	.1199	.1264	.1324	.1380	.1431	.1478	
1.70	.0017	.0067	.0147	.0250	.0368	.0496	.0625	.0749	.0864	.0965	.1051	.1122	.1182	.1231	.1275	.1315	.1351	
1.80	.0017	.0067	.0146	.0247	.0363	.0486	.0608	.0723	.0827	.0916	.0989	.1045	.1091	.1125	.1155	.1182	.1207	
1.90	.0017	.0067	.0145	.0245	.0357	.0475	.0590	.0697	.0790	.0867	.0927	.0979	.1019	.1051	.1075	.1095	.1112	
2.00	.0017	.0067	.0144	.0242	.0352	.0464	.0573	.0670	.0753	.0818	.0866	.0906	.0938	.0961	.0978	.0991	.1000	
2.20	.0017	.0067	.0143	.0237	.0340	.0442	.0536	.0616	.0678	.0722	.0747	.0756	.0766	.0775	.0781	.0784	.0786	
2.40	.0017	.0066	.0141	.0231	.0327	.0419	.0499	.0562	.0605	.0630	.0636	.0628	.0614	.0591	.0561	.0526	.0487	
2.60	.0017	.0066	.0138	.0225	.0314	.0395	.0461	.0508	.0535	.0543	.0534	.0514	.0484	.0449	.0408	.0362	.0312	
2.80	.0017	.0065	.0136	.0218	.0300	.0371	.0424	.0456	.0468	.0462	.0443	.0413	.0374	.0329	.0278	.0221	.0160	
3.00	.0017	.0065	.0134	.0212	.0286	.0346	.0387	.0406	.0406	.0389	.0362	.0328	.0284	.0231	.0170	.0108	.0046	
3.20	.0017	.0064	.0131	.0205	.0271	.0322	.0351	.0359	.0348	.0324	.0291	.0256	.0204	.0143	.0080	.0018	.0000	
3.40	.0017	.0064	.0129	.0197	.0257	.0298	.0316	.0314	.0296	.0266	.0232	.0196	.0133	.0069	.0006	.0000	.0000	
3.60	.0017	.0063	.0126	.0190	.0242	.0284	.0284	.0273	.0249	.0217	.0182	.0149	.0094	.0036	.0000	.0000	.0000	
3.80	.0017	.0062	.0123	.0183	.0228	.0251	.0253	.0236	.0207	.0174	.0141	.0111	.0065	.0038	.0022	.0014	.0000	
4.00	.0017	.0062	.0120	.0175	.0214	.0229	.0223	.0202	.0171	.0138	.0106	.0081	.0044	.0024	.0014	.0000	.0000	
4.50	.0017	.0060	.0113	.0156	.0179	.0179	.0160	.0132	.0101	.0074	.0052	.0035	.0016	.0007	.0004	.0000	.0000	
5.00	.0017	.0058	.0105	.0137	.0147	.0135	.0110	.0082	.0057	.0037	.0023	.0014	.0005	.0002	.0001	.0000	.0000	
5.50	.0016	.0056	.0096	.0119	.0118	.0099	.0073	.0049	.0030	.0017	.0009	.0005	.0002	.0001	.0000	.0000	.0000	
6.00	.0016	.0054	.0088	.0102	.0093	.0071	.0047	.0027	.0015	.0007	.0003	.0001	.0000	.0000	.0000	.0000	.0000	
6.50	.0016	.0051	.0080	.0086	.0072	.0049	.0029	.0015	.0007	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	
7.00	.0016	.0049	.0072	.0054	.0033	.0017	.0008	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
7.50	.0016	.0047	.0065	.0059	.0040	.0022	.0010	.0004	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
8.00	.0015	.0044	.0051	.0048	.0029	.0014	.0005	.0002	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
8.50	.0015	.0042	.0051	.0038	.0021	.0008	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
9.00	.0015	.0039	.0044	.0030	.0014	.0005	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
9.50	.0015	.0037	.0038	.0024	.0010	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
10.00	.0015	.0036	.0036	.0022	.0009	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	

C

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



## A4

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 40% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																
	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
0.00	4752	5239	5692	6112	6498	6850	7171	7462	7724	7961	8174	8365	8537	8690	8828	8951
0.05	4747	5232	5684	6102	6487	6838	7158	7448	7710	7946	8158	8349	8529	8673	8810	8933
0.10	4729	5210	5659	6074	6455	6803	7119	7406	7663	7899	8110	8299	8469	8621	8758	8880
0.15	4701	5176	5618	6026	6401	6744	7055	7337	7592	7827	8036	8216	8366	8535	8670	8792
0.20	4661	5127	5561	5961	6327	6662	6966	7241	7496	7715	7918	8101	8264	8414	8548	8669
0.25	4610	5065	5488	5877	6233	6558	6853	7120	7361	7580	7777	7955	8115	8261	8392	8511
0.30	4549	4991	5401	5777	6126	6453	6757	7024	7266	7496	7703	7878	8034	8175	8309	8431
0.35	4477	4905	5299	5660	5989	6288	6559	6805	7026	7227	7409	7573	7723	7862	7995	8117
0.40	4396	4807	5184	5529	5842	6125	6382	6614	6824	7014	7186	7342	7484	7613	7731	7839
0.45	4306	4698	5057	5383	5679	5945	6187	6404	6601	6779	6940	7086	7220	7341	7452	7555
0.50	4208	4580	4919	5223	5501	5751	5975	6177	6359	6524	6673	6809	6932	7045	7148	7243
0.55	4102	4453	4770	5056	5312	5542	5749	5934	6101	6252	6388	6512	6625	6728	6823	6909
0.60	3989	4317	4612	4876	5112	5322	5510	5679	5830	5966	6094	6216	6331	6438	6536	6626
0.65	3869	4175	4447	4689	4903	5093	5262	5413	5547	5668	5777	5875	5964	6045	6119	6187
0.70	3744	4026	4273	4494	4685	4851	5006	5139	5257	5362	5456	5541	5618	5687	5750	5808
0.75	3615	3873	4098	4294	4463	4614	4743	4860	4961	5058	5139	5201	5265	5323	5375	5422
0.80	3481	3713	3917	4090	4240	4369	4480	4577	4662	4736	4802	4860	4911	4957	4998	5035
0.85	3343	3554	3733	3884	4012	4122	4215	4295	4363	4423	4474	4519	4558	4593	4624	4651
0.90	3206	3392	3547	3677	3784	3875	3950	4013	4067	4112	4150	4183	4211	4235	4255	4273
0.95	3063	3228	3361	3469	3559	3630	3688	3736	3775	3807	3833	3854	3872	3886	3897	3906
1.00	2924	3064	3175	3264	3334	3388	3431	3464	3490	3510	3524	3535	3543	3549	3552	3554
1.05	2783	2901	2992	3061	3113	3152	3180	3200	3214	3222	3227	3229	3228	3226	3222	3217
1.10	2642	2739	2811	2862	2898	2922	2937	2945	2948	2946	2942	2936	2928	2919	2910	2900
1.15	2502	2579	2633	2668	2699	2720	2733	2740	2743	2743	2742	2740	2736	2731	2717	2702
1.20	2364	2423	2460	2480	2497	2508	2516	2522	2526	2528	2529	2528	2524	2519	2504	2488
1.25	2229	2270	2291	2303	2312	2319	2324	2328	2331	2333	2335	2333	2329	2324	2308	2291
1.30	2096	2122	2139	2153	2163	2170	2176	2180	2183	2185	2187	2185	2181	2176	2159	2141
1.35	1967	1978	1972	1956	1932	1903	1873	1841	1810	1780	1750	1722	1696	1671	1647	1623
1.40	1841	1839	1822	1796	1765	1730	1695	1660	1625	1592	1561	1532	1504	1479	1455	1433
1.45	1720	1706	1679	1645	1608	1568	1529	1491	1454	1420	1388	1358	1331	1305	1282	1261
1.50	1602	1578	1543	1503	1460	1417	1375	1335	1298	1263	1231	1201	1174	1149	1127	1106
1.55	1490	1457	1415	1369	1323	1277	1234	1193	1155	1120	1088	1059	1033	1009	988	968
1.60	1382	1341	1294	1244	1195	1148	1103	1062	1025	991	960	932	907	884	864	846
1.65	1279	1232	1180	1127	1076	1028	984	944	907	874	845	818	795	774	755	738
1.70	1182	1129	1073	1019	967	919	876	836	801	770	742	717	693	676	658	643
1.75	1091	1031	973	918	866	816	770	728	691	658	629	605	582	561	543	526
1.80	1001	941	882	826	775	727	683	642	604	570	541	517	494	473	454	438
1.85	918	857	797	741	690	641	596	555	517	483	454	434	416	401	388	376
1.90	838	776	715	658	606	557	512	471	433	400	371	351	336	322	313	306
1.95	760	697	636	579	526	477	432	391	353	320	291	272	256	243	233	227
2.00	684	621	560	503	450	401	356	315	277	244	215	196	181	171	163	158
2.05	610	547	486	429	376	327	282	241	203	170	141	122	107	97	90	86
2.10	538	475	414	357	304	255	210	169	131	98	70	51	36	26	19	15
2.15	468	405	344	287	234	185	140	100	65	35	10	0	0	0	0	0
2.20	400	337	276	219	166	117	72	32	0	0	0	0	0	0	0	0
2.25	334	271	210	153	100	51	6	0	0	0	0	0	0	0	0	0
2.30	270	207	146	90	37	0	0	0	0	0	0	0	0	0	0	0
2.35	208	145	84	28	0	0	0	0	0	0	0	0	0	0	0	0
2.40	148	83	22	0	0	0	0	0	0	0	0	0	0	0	0	0
2.45	88	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.50	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

A4

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 40% WR

OFFSET DISTANCE/WEAPON RADIUS (DWR)	WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )															
	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
2.50	.0251	.0210	.0177	.0153	.0134	.0119	.0107	.0098	.0091	.0085	.0080	.0076	.0073	.0070	.0068	.0066
2.60	.0200	.0165	.0138	.0117	.0098	.0081	.0068	.0056	.0046	.0038	.0031	.0025	.0020	.0016	.0013	.0010
2.70	.0159	.0129	.0106	.0086	.0068	.0052	.0040	.0032	.0025	.0019	.0014	.0010	.0007	.0005	.0003	.0002
2.80	.0125	.0100	.0082	.0069	.0059	.0052	.0046	.0042	.0039	.0037	.0035	.0033	.0031	.0030	.0029	.0028
2.90	.0098	.0077	.0063	.0052	.0045	.0039	.0035	.0032	.0030	.0028	.0026	.0025	.0024	.0023	.0022	.0021
3.00	.0077	.0060	.0048	.0040	.0034	.0030	.0027	.0024	.0022	.0021	.0020	.0019	.0018	.0017	.0017	.0016
3.10	.0060	.0046	.0037	.0030	.0026	.0023	.0020	.0018	.0017	.0016	.0015	.0014	.0014	.0013	.0013	.0012
3.20	.0046	.0035	.0028	.0023	.0020	.0017	.0015	.0014	.0013	.0012	.0012	.0011	.0011	.0010	.0010	.0010
3.30	.0036	.0027	.0021	.0018	.0015	.0013	.0012	.0011	.0010	.0009	.0009	.0008	.0008	.0008	.0008	.0007
3.40	.0028	.0021	.0016	.0013	.0011	.0010	.0009	.0008	.0008	.0007	.0007	.0006	.0006	.0006	.0006	.0006
3.50	.0021	.0016	.0012	.0010	.0009	.0008	.0007	.0006	.0006	.0005	.0005	.0005	.0005	.0005	.0004	.0004
3.60	.0016	.0012	.0009	.0008	.0007	.0006	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004	.0003	.0003
3.70	.0013	.0009	.0007	.0006	.0005	.0004	.0004	.0004	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003
3.80	.0010	.0007	.0006	.0005	.0004	.0003	.0003	.0003	.0003	.0003	.0002	.0002	.0002	.0002	.0002	.0002
3.90	.0007	.0005	.0004	.0004	.0003	.0003	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0001	.0001	.0001
4.00	.0006	.0004	.0003	.0003	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.10	.0004	.0003	.0003	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.20	.0003	.0002	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.30	.0003	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.40	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.50	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.60	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.70	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.80	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
4.90	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
∞	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (DWR)

A4

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 40% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	
	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60	
OFFSET DISTANCE/WEAPON RADIUS (D/WR)	0.00	.8951	.9159	.9325	.9457	.9563	.9647	.9715	.9769	.9812	.9847	.9875	.9898	.9917	.9931	.9944	.9953
	0.05	.8933	.9141	.9307	.9440	.9547	.9632	.9700	.9755	.9800	.9836	.9865	.9888	.9907	.9923	.9936	.9947
	0.10	.8880	.9088	.9255	.9390	.9498	.9586	.9657	.9714	.9761	.9800	.9831	.9857	.9879	.9897	.9912	.9924
	0.15	.8792	.9000	.9168	.9305	.9416	.9507	.9582	.9643	.9694	.9737	.9772	.9802	.9828	.9849	.9867	.9883
	0.20	.8669	.8876	.9043	.9184	.9298	.9393	.9473	.9539	.9595	.9642	.9683	.9718	.9747	.9773	.9795	.9815
	0.25	.8511	.8716	.8886	.9026	.9144	.9243	.9327	.9398	.9459	.9512	.9557	.9597	.9631	.9662	.9689	.9712
	0.30	.8319	.8521	.8698	.8831	.8951	.9053	.9141	.9216	.9282	.9339	.9389	.9433	.9472	.9507	.9539	.9566
	0.35	.8093	.8292	.8458	.8598	.8719	.8822	.8912	.8989	.9059	.9120	.9174	.9221	.9264	.9303	.9337	.9369
	0.40	.7839	.8029	.8190	.8326	.8446	.8549	.8640	.8719	.8789	.8851	.8907	.8957	.9002	.9042	.9079	.9113
	0.45	.7554	.7735	.7888	.8021	.8135	.8236	.8324	.8402	.8471	.8533	.8589	.8639	.8684	.8725	.8762	.8796
0.50	.7243	.7412	.7556	.7686	.7788	.7883	.7967	.8041	.8108	.8167	.8220	.8268	.8311	.8351	.8387	.8419	
0.55	.6912	.7075	.7215	.7335	.7440	.7532	.7614	.7686	.7750	.7808	.7860	.7906	.7948	.7987	.8021	.8053	
0.60	.6568	.6725	.6858	.6972	.7075	.7168	.7249	.7321	.7385	.7443	.7500	.7551	.7600	.7643	.7680	.7717	
0.65	.6215	.6366	.6486	.6592	.6686	.6770	.6843	.6906	.6965	.7019	.7073	.7123	.7171	.7218	.7261	.7300	
0.70	.5858	.6003	.6118	.6215	.6300	.6376	.6443	.6500	.6550	.6594	.6637	.6677	.6714	.6750	.6785	.6819	
0.75	.5495	.5635	.5745	.5838	.5918	.5986	.6045	.6096	.6142	.6183	.6222	.6260	.6297	.6334	.6370	.6405	
0.80	.5128	.5262	.5368	.5458	.5535	.5602	.5660	.5711	.5758	.5802	.5843	.5882	.5920	.5957	.5993	.6028	
0.85	.4758	.4887	.4988	.5075	.5152	.5220	.5280	.5335	.5386	.5434	.5480	.5524	.5566	.5607	.5647	.5685	
0.90	.4385	.4509	.4606	.4691	.4765	.4830	.4888	.4942	.4993	.5043	.5091	.5137	.5181	.5224	.5266	.5307	
0.95	.4012	.4131	.4224	.4303	.4372	.4433	.4488	.4540	.4589	.4637	.4684	.4729	.4773	.4816	.4858	.4900	
1.00	.3638	.3753	.3843	.3918	.3982	.4038	.4095	.4150	.4203	.4254	.4303	.4350	.4396	.4441	.4485	.4529	
1.05	.3265	.3376	.3458	.3528	.3589	.3644	.3699	.3753	.3805	.3856	.3906	.3954	.4001	.4047	.4092	.4136	
1.10	.2892	.2999	.3078	.3145	.3206	.3263	.3319	.3374	.3428	.3481	.3533	.3584	.3634	.3683	.3731	.3778	
1.15	.2518	.2621	.2696	.2759	.2816	.2869	.2921	.2972	.3022	.3071	.3119	.3166	.3212	.3258	.3303	.3348	
1.20	.2145	.2245	.2317	.2377	.2432	.2484	.2535	.2585	.2634	.2682	.2729	.2775	.2820	.2865	.2909	.2953	
1.25	.1772	.1869	.1938	.1995	.2048	.2099	.2149	.2198	.2246	.2293	.2339	.2384	.2429	.2473	.2517	.2560	
1.30	.1400	.1494	.1560	.1614	.1665	.1714	.1762	.1809	.1855	.1900	.1944	.1988	.2031	.2074	.2117	.2159	
1.35	.1028	.1119	.1182	.1234	.1283	.1330	.1376	.1421	.1465	.1508	.1551	.1593	.1635	.1676	.1717	.1758	
1.40	.0656	.0744	.0795	.0845	.0892	.0937	.0981	.1024	.1066	.1107	.1148	.1188	.1228	.1267	.1306	.1345	
1.45	.0284	.0369	.0417	.0463	.0506	.0548	.0589	.0629	.0668	.0706	.0744	.0781	.0817	.0853	.0888	.0923	
1.50	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
1.55	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	

A4

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 40% WR

		WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )									
		2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40
1.14	1.36	2660	2634	2608	2583	2564	2544	2526	2510	2496	2483
		2545	2516	2489	2464	2442	2421	2403	2387	2372	2358
1.16	1.38	2434	2403	2374	2348	2324	2303	2284	2268	2252	2239
		2326	2293	2263	2236	2212	2190	2171	2153	2138	2125
1.20	1.42	2232	2187	2156	2128	2103	2081	2061	2044	2029	2015
		2120	2085	2052	2024	1999	1976	1957	1939	1924	1910
1.24	1.46	2023	1986	1953	1924	1898	1876	1856	1839	1824	1810
		1929	1891	1857	1828	1803	1780	1761	1743	1728	1715
1.30	1.50	1836	1799	1766	1736	1711	1688	1669	1652	1637	1624
		1736	1711	1678	1648	1623	1601	1581	1563	1550	1537
1.34	1.54	1666	1627	1593	1564	1539	1517	1498	1481	1467	1454
		1565	1546	1513	1484	1459	1437	1418	1402	1388	1376
1.38	1.58	1463	1424	1390	1361	1332	1302	1273	1244	1215	1186
		1362	1323	1289	1260	1231	1201	1172	1143	1114	1085
1.40	1.60	1362	1323	1289	1260	1231	1201	1172	1143	1114	1085
		1262	1223	1189	1160	1131	1101	1072	1043	1014	985
1.44	1.64	1262	1223	1189	1160	1131	1101	1072	1043	1014	985
		1162	1123	1089	1060	1031	1001	972	943	914	885
1.46	1.66	1162	1123	1089	1060	1031	1001	972	943	914	885
		1062	1023	989	960	931	901	872	843	814	785
1.48	1.68	1062	1023	989	960	931	901	872	843	814	785
		962	923	889	860	831	801	772	743	714	685
1.50	1.70	962	923	889	860	831	801	772	743	714	685
		862	823	789	760	731	701	672	643	614	585
1.54	1.74	862	823	789	760	731	701	672	643	614	585
		762	723	689	660	631	601	572	543	514	485
1.58	1.78	762	723	689	660	631	601	572	543	514	485
		662	623	589	560	531	501	472	443	414	385
1.60	1.80	662	623	589	560	531	501	472	443	414	385
		562	523	489	460	431	401	372	343	314	285
1.64	1.84	562	523	489	460	431	401	372	343	314	285
		462	423	389	360	331	301	272	243	214	185
1.66	1.86	462	423	389	360	331	301	272	243	214	185
		362	323	289	260	231	201	172	143	114	85
1.68	1.88	362	323	289	260	231	201	172	143	114	85
		262	223	189	160	131	101	72	43	14	-15
1.70	1.90	262	223	189	160	131	101	72	43	14	-15
		162	123	89	60	31	1	-28	-59	-90	-121
1.74	1.94	162	123	89	60	31	1	-28	-59	-90	-121
		62	23	-11	-40	-69	-98	-127	-156	-185	-214
1.78	1.98	62	23	-11	-40	-69	-98	-127	-156	-185	-214
		-38	-67	-96	-125	-154	-183	-212	-241	-270	-299
1.80	2.00	-38	-67	-96	-125	-154	-183	-212	-241	-270	-299
		-138	-167	-196	-225	-254	-283	-312	-341	-370	-399
1.84	2.04	-138	-167	-196	-225	-254	-283	-312	-341	-370	-399
		-238	-267	-296	-325	-354	-383	-412	-441	-470	-499
1.86	2.06	-238	-267	-296	-325	-354	-383	-412	-441	-470	-499
		-338	-367	-396	-425	-454	-483	-512	-541	-570	-599
1.90	2.10	-338	-367	-396	-425	-454	-483	-512	-541	-570	-599
		-438	-467	-496	-525	-554	-583	-612	-641	-670	-699
1.94	2.14	-438	-467	-496	-525	-554	-583	-612	-641	-670	-699
		-538	-567	-596	-625	-654	-683	-712	-741	-770	-799
1.98	2.18	-538	-567	-596	-625	-654	-683	-712	-741	-770	-799
		-638	-667	-696	-725	-754	-783	-812	-841	-870	-899
2.00	2.20	-638	-667	-696	-725	-754	-783	-812	-841	-870	-899
		-738	-767	-796	-825	-854	-883	-912	-941	-970	-999
2.04	2.24	-738	-767	-796	-825	-854	-883	-912	-941	-970	-999
		-838	-867	-896	-925	-954	-983	-1012	-1041	-1070	-1099
2.06	2.26	-838	-867	-896	-925	-954	-983	-1012	-1041	-1070	-1099
		-938	-967	-996	-1025	-1054	-1083	-1112	-1141	-1170	-1199
2.10	2.30	-938	-967	-996	-1025	-1054	-1083	-1112	-1141	-1170	-1199
		-1038	-1067	-1096	-1125	-1154	-1183	-1212	-1241	-1270	-1299
2.14	2.34	-1038	-1067	-1096	-1125	-1154	-1183	-1212	-1241	-1270	-1299
		-1138	-1167	-1196	-1225	-1254	-1283	-1312	-1341	-1370	-1399
2.18	2.38	-1138	-1167	-1196	-1225	-1254	-1283	-1312	-1341	-1370	-1399
		-1238	-1267	-1296	-1325	-1354	-1383	-1412	-1441	-1470	-1499
2.20	2.40	-1238	-1267	-1296	-1325	-1354	-1383	-1412	-1441	-1470	-1499
		-1338	-1367	-1396	-1425	-1454	-1483	-1512	-1541	-1570	-1599
2.24	2.44	-1338	-1367	-1396	-1425	-1454	-1483	-1512	-1541	-1570	-1599
		-1438	-1467	-1496	-1525	-1554	-1583	-1612	-1641	-1670	-1699
2.26	2.46	-1438	-1467	-1496	-1525	-1554	-1583	-1612	-1641	-1670	-1699
		-1538	-1567	-1596	-1625	-1654	-1683	-1712	-1741	-1770	-1799
2.30	2.50	-1538	-1567	-1596	-1625	-1654	-1683	-1712	-1741	-1770	-1799
		-1638	-1667	-1696	-1725	-1754	-1783	-1812	-1841	-1870	-1899
2.34	2.54	-1638	-1667	-1696	-1725	-1754	-1783	-1812	-1841	-1870	-1899
		-1738	-1767	-1796	-1825	-1854	-1883	-1912	-1941	-1970	-1999
2.38	2.58	-1738	-1767	-1796	-1825	-1854	-1883	-1912	-1941	-1970	-1999
		-1838	-1867	-1896	-1925	-1954	-1983	-2012	-2041	-2070	-2099
2.40	2.60	-1838	-1867	-1896	-1925	-1954	-1983	-2012	-2041	-2070	-2099
		-1938	-1967	-1996	-2025	-2054	-2083	-2112	-2141	-2170	-2199
2.44	2.64	-1938	-1967	-1996	-2025	-2054	-2083	-2112	-2141	-2170	-2199
		-2038	-2067	-2096	-2125	-2154	-2183	-2212	-2241	-2270	-2299
2.46	2.66	-2038	-2067	-2096	-2125	-2154	-2183	-2212	-2241	-2270	-2299
		-2138	-2167	-2196	-2225	-2254	-2283	-2312	-2341	-2370	-2399
2.50	2.70	-2138	-2167	-2196	-2225	-2254	-2283	-2312	-2341	-2370	-2399
		-2238	-2267	-2296	-2325	-2354	-2383	-2412	-2441	-2470	-2499
2.54	2.74	-2238	-2267	-2296	-2325	-2354	-2383	-2412	-2441	-2470	-2499
		-2338	-2367	-2396	-2425	-2454	-2483	-2512	-2541	-2570	-2599
2.58	2.78	-2338	-2367	-2396	-2425	-2454	-2483	-2512	-2541	-2570	-2599
		-2438	-2467	-2496	-2525	-2554	-2583	-2612	-2641	-2670	-2699
2.60	2.80	-2438	-2467	-2496	-2525	-2554	-2583	-2612	-2641	-2670	-2699
		-2538	-2567	-2596	-2625	-2654	-2683	-2712	-2741	-2770	-2799

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 40% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																
	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50
0.00	.9968	.9980	.9987	.9992	.9995	.9996	.9998	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.05	.9962	.9975	.9984	.9989	.9992	.9995	.9997	.9997	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.10	.9944	.9960	.9972	.9979	.9985	.9988	.9991	.9993	.9995	.9996	.9997	.9997	.9998	.9998	.9998	.9998
0.15	.9908	.9930	.9946	.9958	.9967	.9973	.9978	.9982	.9985	.9987	.9989	.9991	.9992	.9993	.9994	.9995
0.20	.9847	.9877	.9900	.9917	.9930	.9941	.9949	.9956	.9961	.9966	.9969	.9972	.9975	.9977	.9979	.9981
0.25	.9752	.9792	.9822	.9846	.9865	.9880	.9892	.9903	.9912	.9919	.9925	.9931	.9935	.9939	.9943	.9946
0.30	.9614	.9662	.9700	.9730	.9755	.9776	.9793	.9808	.9820	.9831	.9840	.9848	.9855	.9861	.9866	.9871
0.35	.9423	.9478	.9522	.9559	.9589	.9614	.9636	.9654	.9669	.9683	.9695	.9705	.9714	.9722	.9729	.9736
0.40	.9171	.9231	.9280	.9320	.9354	.9382	.9406	.9427	.9445	.9461	.9474	.9486	.9497	.9506	.9513	.9522
0.45	.8855	.8917	.8967	.9009	.9044	.9073	.9098	.9120	.9139	.9155	.9170	.9182	.9193	.9203	.9212	.9220
0.50	.8477	.8536	.8585	.8625	.8659	.8688	.8712	.8733	.8751	.8767	.8781	.8793	.8803	.8813	.8821	.8829
0.55	.8309	.8367	.8414	.8453	.8486	.8513	.8537	.8557	.8575	.8590	.8603	.8615	.8625	.8634	.8642	.8650
0.60	.8132	.8188	.8233	.8271	.8302	.8329	.8351	.8370	.8387	.8402	.8414	.8425	.8435	.8444	.8452	.8459
0.65	.7948	.8001	.8044	.8079	.8109	.8134	.8156	.8174	.8189	.8203	.8215	.8226	.8235	.8243	.8250	.8257
0.70	.7758	.7806	.7846	.7880	.7906	.7931	.7951	.7968	.7983	.7996	.8007	.8017	.8025	.8033	.8040	.8046
0.75	.7558	.7604	.7642	.7673	.7699	.7721	.7739	.7755	.7769	.7780	.7790	.7799	.7807	.7814	.7821	.7826
0.80	.7354	.7397	.7432	.7460	.7484	.7504	.7521	.7535	.7547	.7558	.7567	.7576	.7583	.7589	.7595	.7600
0.85	.7143	.7184	.7216	.7242	.7264	.7282	.7297	.7310	.7321	.7330	.7339	.7346	.7353	.7358	.7363	.7368
0.90	.6932	.6968	.6996	.7020	.7039	.7055	.7069	.7080	.7090	.7099	.7106	.7112	.7118	.7123	.7127	.7131
0.95	.6716	.6748	.6774	.6794	.6811	.6826	.6837	.6847	.6856	.6864	.6870	.6876	.6881	.6885	.6889	.6892
1.00	.6498	.6526	.6549	.6567	.6582	.6594	.6604	.6613	.6620	.6627	.6632	.6637	.6641	.6645	.6648	.6651
1.05	.6279	.6303	.6323	.6338	.6351	.6361	.6370	.6377	.6384	.6389	.6394	.6398	.6401	.6404	.6407	.6409
1.10	.6060	.6080	.6096	.6109	.6120	.6129	.6136	.6142	.6147	.6151	.6155	.6158	.6161	.6164	.6166	.6168
1.15	.5840	.5857	.5871	.5881	.5890	.5897	.5903	.5907	.5912	.5915	.5918	.5921	.5923	.5925	.5927	.5928
1.20	.5622	.5636	.5646	.5655	.5661	.5667	.5671	.5675	.5678	.5681	.5683	.5685	.5687	.5688	.5689	.5691
1.25	.5406	.5416	.5424	.5431	.5436	.5439	.5443	.5445	.5447	.5449	.5451	.5452	.5453	.5454	.5455	.5456
1.30	.5192	.5199	.5205	.5209	.5213	.5215	.5217	.5219	.5220	.5221	.5222	.5223	.5224	.5224	.5225	.5225
1.35	.4981	.4986	.4989	.4992	.4994	.4995	.4996	.4997	.4997	.4998	.4998	.4998	.4999	.4999	.4999	.4999
1.40	.4774	.4776	.4777	.4778	.4779	.4779	.4779	.4779	.4779	.4779	.4779	.4779	.4779	.4779	.4779	.4779
1.45	.4571	.4571	.4570	.4569	.4569	.4568	.4567	.4566	.4566	.4565	.4564	.4564	.4563	.4563	.4562	.4562
1.50	.4372	.4370	.4368	.4366	.4364	.4362	.4361	.4359	.4358	.4357	.4356	.4355	.4354	.4353	.4353	.4352
1.55	.4176	.4174	.4170	.4167	.4164	.4162	.4160	.4158	.4156	.4155	.4153	.4152	.4151	.4150	.4149	.4148
1.60	.3989	.3983	.3979	.3974	.3971	.3968	.3965	.3962	.3960	.3958	.3957	.3955	.3954	.3953	.3952	.3951
1.65	.3806	.3799	.3793	.3787	.3783	.3779	.3776	.3773	.3771	.3769	.3767	.3765	.3764	.3762	.3761	.3760
1.70	.3628	.3619	.3613	.3607	.3602	.3597	.3594	.3590	.3586	.3585	.3583	.3581	.3580	.3578	.3577	.3576
1.75	.3456	.3446	.3438	.3432	.3426	.3422	.3418	.3414	.3411	.3409	.3406	.3404	.3402	.3401	.3399	.3398
1.80	.3289	.3279	.3271	.3263	.3257	.3252	.3248	.3244	.3241	.3238	.3236	.3234	.3232	.3230	.3227	.3226
1.85	.3129	.3118	.3109	.3101	.3093	.3086	.3083	.3081	.3078	.3075	.3073	.3070	.3068	.3066	.3063	.3063
1.90	.2974	.2963	.2953	.2945	.2939	.2933	.2929	.2924	.2921	.2918	.2915	.2913	.2911	.2909	.2908	.2906
1.95	.2826	.2814	.2804	.2796	.2789	.2783	.2778	.2774	.2771	.2768	.2765	.2762	.2760	.2759	.2757	.2755
2.00	.2683	.2671	.2661	.2652	.2645	.2639	.2635	.2630	.2627	.2624	.2621	.2618	.2616	.2614	.2613	.2611
2.05	.2546	.2533	.2523	.2513	.2506	.2502	.2497	.2493	.2489	.2486	.2483	.2481	.2479	.2477	.2475	.2474

A4

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 40% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																
6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	13.50
1.14	2415	2392	2383	2376	2370	2365	2361	2358	2354	2352	2349	2347	2345	2344	2342	2342
1.16	2289	2266	2258	2251	2245	2240	2236	2232	2229	2226	2224	2222	2220	2218	2217	2217
1.18	2170	2157	2146	2138	2131	2125	2120	2116	2112	2109	2107	2104	2102	2100	2099	2097
1.20	2055	2042	2032	2024	2017	2011	2006	2002	1998	1995	1993	1990	1988	1987	1985	1983
1.22	1946	1933	1923	1915	1908	1902	1898	1893	1889	1887	1884	1882	1880	1878	1877	1875
1.24	1842	1829	1819	1811	1804	1799	1794	1790	1787	1784	1781	1779	1777	1775	1774	1772
1.26	1742	1730	1721	1713	1706	1701	1696	1692	1689	1686	1683	1681	1679	1678	1676	1675
1.28	1646	1636	1627	1619	1613	1607	1603	1599	1596	1593	1591	1588	1587	1585	1583	1582
1.30	1556	1547	1537	1530	1524	1519	1514	1511	1507	1505	1502	1500	1498	1497	1495	1494
1.32	1473	1462	1453	1445	1439	1434	1430	1427	1424	1421	1419	1417	1415	1413	1412	1411
1.34	1392	1381	1372	1365	1359	1355	1351	1347	1344	1342	1339	1338	1336	1334	1333	1332
1.36	1315	1305	1296	1289	1284	1279	1275	1272	1269	1267	1264	1263	1261	1260	1258	1257
1.38	1242	1232	1224	1217	1212	1207	1204	1200	1198	1195	1193	1192	1190	1189	1187	1186
1.40	1173	1163	1156	1149	1144	1140	1136	1133	1130	1128	1126	1124	1123	1122	1120	1119
1.42	1108	1098	1091	1085	1080	1075	1072	1069	1066	1064	1062	1061	1059	1058	1057	1056
1.44	1046	1037	1029	1024	1019	1015	1011	1009	1006	1004	1002	1001	999	998	997	996
1.46	987	978	971	966	961	957	954	951	949	947	945	944	943	941	940	939
1.48	932	923	917	911	907	903	900	897	895	893	892	890	889	888	887	886
1.50	879	871	865	859	855	852	849	846	844	842	841	839	838	837	836	835
1.60	657	650	645	641	638	635	633	631	629	628	627	625	625	624	623	622
1.70	490	485	481	478	475	473	471	470	468	467	466	466	465	464	464	463
1.80	365	361	358	356	354	352	351	350	349	348	347	347	346	345	345	345
1.90	272	269	267	265	264	262	261	260	259	259	258	258	258	257	257	257
2.00	203	201	200	199	198	197	196	195	194	193	193	193	192	192	191	191
2.10	152	150	149	148	147	146	145	145	144	144	144	144	144	143	143	143
2.20	114	112	111	111	110	109	109	109	108	108	108	108	108	107	107	107
2.30	863	864	864	863	863	862	862	862	861	861	861	861	861	861	860	860
2.40	664	663	663	662	662	662	662	661	661	661	661	661	661	661	661	660
2.50	448	448	447	447	447	447	446	446	446	446	446	446	446	446	446	446
2.60	337	336	336	336	335	335	335	335	335	335	335	335	335	335	335	335
2.70	238	237	237	237	237	237	237	237	236	236	236	236	236	236	236	236
2.80	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161
2.90	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
3.00	812	812	812	812	812	812	812	812	812	812	812	812	812	812	812	812
3.10	589	589	589	589	589	589	589	589	589	589	589	589	589	589	589	589
3.20	427	427	427	427	427	427	427	427	427	427	427	427	427	427	427	427
3.30	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306
3.40	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214
3.50	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146
3.60	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
3.70	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
3.80	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
∞	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

A4

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 40% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

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A4

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 40% WR

		WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )										P <sub>D</sub>					
		13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50	20.00	∞
1.00	.2757	.2755	.2754	.2753	.2752	.2751	.2750	.2749	.2748	.2748	.2747	.2747	.2746	.2746	.2745	.2745	.2736
1.10	.2613	.2611	.2610	.2609	.2608	.2607	.2606	.2605	.2604	.2604	.2603	.2602	.2602	.2601	.2601	.2601	.2592
1.12	.2475	.2474	.2472	.2471	.2470	.2469	.2468	.2467	.2466	.2466	.2465	.2465	.2464	.2464	.2463	.2454	.2454
1.14	.2344	.2342	.2341	.2340	.2338	.2337	.2337	.2336	.2335	.2334	.2334	.2333	.2332	.2332	.2332	.2323	.2323
1.16	.2216	.2215	.2214	.2213	.2212	.2212	.2211	.2210	.2209	.2209	.2208	.2208	.2207	.2207	.2206	.2198	.2198
1.18	.2093	.2092	.2091	.2090	.2089	.2088	.2087	.2086	.2085	.2084	.2083	.2082	.2081	.2081	.2080	.2071	.2071
1.20	.1985	.1983	.1982	.1981	.1980	.1979	.1978	.1977	.1976	.1975	.1974	.1973	.1972	.1972	.1971	.1962	.1962
1.22	.1877	.1875	.1874	.1873	.1872	.1871	.1870	.1869	.1868	.1867	.1866	.1865	.1864	.1864	.1863	.1854	.1854
1.24	.1774	.1772	.1771	.1770	.1769	.1768	.1767	.1766	.1765	.1764	.1763	.1762	.1761	.1761	.1760	.1751	.1751
1.26	.1676	.1675	.1674	.1673	.1672	.1671	.1670	.1669	.1668	.1667	.1666	.1665	.1664	.1664	.1663	.1654	.1654
1.28	.1583	.1582	.1581	.1580	.1579	.1578	.1577	.1576	.1575	.1574	.1573	.1572	.1571	.1571	.1570	.1561	.1561
1.30	.1495	.1494	.1493	.1492	.1491	.1490	.1489	.1488	.1487	.1486	.1485	.1484	.1483	.1483	.1482	.1473	.1473
1.32	.1412	.1411	.1410	.1409	.1408	.1407	.1406	.1405	.1404	.1403	.1402	.1401	.1400	.1400	.1399	.1390	.1390
1.34	.1333	.1332	.1331	.1330	.1329	.1328	.1327	.1326	.1325	.1324	.1323	.1322	.1321	.1321	.1320	.1311	.1311
1.36	.1256	.1255	.1254	.1253	.1252	.1251	.1250	.1249	.1248	.1247	.1246	.1245	.1244	.1244	.1243	.1234	.1234
1.38	.1187	.1186	.1185	.1184	.1183	.1182	.1181	.1180	.1179	.1178	.1177	.1176	.1175	.1175	.1174	.1165	.1165
1.40	.1120	.1119	.1118	.1117	.1116	.1115	.1114	.1113	.1112	.1111	.1110	.1109	.1108	.1108	.1107	.1098	.1098
1.42	.1057	.1056	.1055	.1054	.1053	.1052	.1051	.1050	.1049	.1048	.1047	.1046	.1045	.1045	.1044	.1035	.1035
1.44	.0997	.0996	.0995	.0994	.0993	.0992	.0991	.0990	.0989	.0988	.0987	.0986	.0985	.0984	.0983	.0974	.0974
1.46	.0940	.0939	.0938	.0937	.0936	.0935	.0934	.0933	.0932	.0931	.0930	.0929	.0928	.0928	.0927	.0918	.0918
1.48	.0887	.0886	.0885	.0884	.0883	.0882	.0881	.0880	.0879	.0878	.0877	.0876	.0875	.0875	.0874	.0865	.0865
1.50	.0836	.0835	.0834	.0833	.0832	.0831	.0830	.0829	.0828	.0827	.0826	.0825	.0824	.0824	.0823	.0814	.0814
1.52	.0789	.0788	.0787	.0786	.0785	.0784	.0783	.0782	.0781	.0780	.0779	.0778	.0777	.0777	.0776	.0767	.0767
1.54	.0743	.0742	.0741	.0740	.0739	.0738	.0737	.0736	.0735	.0734	.0733	.0732	.0731	.0731	.0730	.0721	.0721
1.56	.0701	.0700	.0699	.0698	.0697	.0696	.0695	.0694	.0693	.0692	.0691	.0690	.0689	.0689	.0688	.0679	.0679
1.58	.0661	.0660	.0659	.0658	.0657	.0656	.0655	.0654	.0653	.0652	.0651	.0650	.0649	.0649	.0648	.0639	.0639
1.60	.0623	.0622	.0621	.0620	.0619	.0618	.0617	.0616	.0615	.0614	.0613	.0612	.0611	.0611	.0610	.0601	.0601
1.62	.0587	.0586	.0585	.0584	.0583	.0582	.0581	.0580	.0579	.0578	.0577	.0576	.0575	.0575	.0574	.0565	.0565
1.64	.0554	.0553	.0552	.0551	.0550	.0549	.0548	.0547	.0546	.0545	.0544	.0543	.0542	.0542	.0541	.0532	.0532
1.66	.0523	.0521	.0520	.0519	.0518	.0517	.0516	.0515	.0514	.0513	.0512	.0511	.0510	.0510	.0509	.0500	.0500
1.68	.0492	.0491	.0490	.0489	.0488	.0487	.0486	.0485	.0484	.0483	.0482	.0481	.0480	.0480	.0479	.0470	.0470
1.70	.0464	.0463	.0462	.0461	.0460	.0459	.0458	.0457	.0456	.0455	.0454	.0453	.0452	.0452	.0451	.0442	.0442
1.72	.0437	.0437	.0436	.0436	.0435	.0435	.0435	.0435	.0434	.0434	.0434	.0434	.0433	.0433	.0433	.0424	.0424
1.74	.0412	.0411	.0411	.0411	.0410	.0410	.0410	.0410	.0409	.0409	.0409	.0409	.0408	.0408	.0408	.0400	.0400
1.76	.0388	.0388	.0387	.0387	.0387	.0387	.0386	.0386	.0386	.0386	.0385	.0385	.0385	.0385	.0385	.0376	.0376
1.78	.0366	.0366	.0365	.0365	.0365	.0364	.0364	.0364	.0364	.0364	.0363	.0363	.0363	.0363	.0363	.0354	.0354
1.80	.0345	.0344	.0344	.0344	.0344	.0343	.0343	.0343	.0343	.0343	.0342	.0342	.0342	.0342	.0342	.0333	.0333
1.82	.0325	.0325	.0325	.0324	.0324	.0324	.0323	.0323	.0323	.0323	.0322	.0322	.0322	.0322	.0322	.0313	.0313
1.84	.0307	.0306	.0306	.0306	.0305	.0305	.0305	.0305	.0305	.0305	.0304	.0304	.0304	.0304	.0304	.0295	.0295
1.86	.0289	.0289	.0288	.0288	.0288	.0288	.0287	.0287	.0287	.0287	.0286	.0286	.0286	.0286	.0286	.0277	.0277
1.88	.0273	.0272	.0272	.0272	.0272	.0271	.0271	.0271	.0271	.0271	.0270	.0270	.0270	.0270	.0270	.0261	.0261
1.90	.0257	.0256	.0256	.0256	.0256	.0255	.0255	.0255	.0255	.0255	.0254	.0254	.0254	.0254	.0254	.0245	.0245
∞	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



A4

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 40% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50	20.00	
1.92	.0242	.0242	.0242	.0242	.0241	.0241	.0241	.0241	.0241	.0241	.0241	.0240	.0240	.0240	.0240	.0239
1.94	.0229	.0228	.0228	.0228	.0228	.0227	.0227	.0227	.0227	.0227	.0227	.0227	.0227	.0227	.0226	.0225
1.96	.0216	.0215	.0215	.0215	.0215	.0215	.0214	.0214	.0214	.0214	.0214	.0214	.0214	.0214	.0214	.0212
1.98	.0203	.0203	.0203	.0203	.0202	.0202	.0202	.0202	.0202	.0202	.0202	.0202	.0202	.0202	.0201	.0200
2.00	.0192	.0191	.0191	.0191	.0191	.0191	.0191	.0191	.0190	.0190	.0190	.0190	.0190	.0190	.0190	.0189
2.10	.0143	.0143	.0143	.0143	.0143	.0143	.0142	.0142	.0142	.0142	.0142	.0142	.0142	.0142	.0142	.0141
2.20	.0107	.0107	.0107	.0107	.0107	.0107	.0107	.0107	.0107	.0107	.0106	.0106	.0106	.0106	.0106	.0106
2.30	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0079
2.40	.0061	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060
2.50	.0046	.0046	.0046	.0046	.0046	.0045	.0045	.0045	.0045	.0045	.0045	.0045	.0045	.0045	.0045	.0045
2.60	.0035	.0035	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034
2.70	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026	.0026
2.80	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020	.0020
2.90	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015
3.00	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0012	.0011
3.10	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009
3.20	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0007
3.30	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A5

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 50% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.70	0.80	0.90	1.00
0.00	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.10	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.20	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.30	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.40	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.50	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.60	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.70	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.80	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
0.90	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.00	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.10	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.20	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.30	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.40	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.50	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.60	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.70	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.80	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
1.90	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
2.00	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
2.20	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
2.40	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
2.60	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
2.80	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
3.00	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
3.20	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
3.40	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
3.60	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
3.80	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
4.00	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
4.50	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
5.00	.0017	.0069	.0152	.0266	.0407	.0572	.0757	.0959	.1176	.1403	.1639	.1881	.2374	.2869	.3356	.3827
5.50	.0016	.0056	.0096	.0159	.0244	.0347	.0469	.0609	.0766	.0938	.0963	.0947	.0927	.0907	.0887	.0867
6.00	.0016	.0054	.0088	.0142	.0222	.0320	.0437	.0572	.0725	.0891	.0954	.0938	.0918	.0898	.0878	.0858
6.50	.0016	.0051	.0080	.0128	.0204	.0297	.0409	.0548	.0706	.0875	.0950	.0934	.0914	.0894	.0874	.0854
7.00	.0016	.0049	.0077	.0122	.0195	.0283	.0390	.0522	.0675	.0846	.0931	.0915	.0895	.0875	.0855	.0835
7.50	.0016	.0047	.0075	.0118	.0188	.0271	.0374	.0501	.0649	.0824	.0918	.0902	.0882	.0862	.0842	.0822
8.00	.0015	.0044	.0071	.0114	.0181	.0260	.0359	.0481	.0624	.0803	.0906	.0890	.0870	.0850	.0830	.0810
8.50	.0015	.0042	.0068	.0110	.0174	.0250	.0345	.0463	.0601	.0784	.0896	.0880	.0860	.0840	.0820	.0800
9.00	.0015	.0039	.0064	.0106	.0168	.0241	.0332	.0446	.0579	.0766	.0886	.0870	.0850	.0830	.0810	.0790
9.50	.0015	.0037	.0062	.0103	.0164	.0234	.0322	.0432	.0561	.0753	.0879	.0863	.0843	.0823	.0803	.0783
∞	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 50% WR

WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )																	
	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	
0.00	.4277	.4704	.5105	.5481	.5830	.6155	.6456	.6733	.6989	.7225	.7442	.7642	.7825	.7994	.8149	.8291	
0.05	.4272	.4698	.5098	.5472	.5820	.6144	.6443	.6720	.6975	.7210	.7426	.7624	.7807	.7974	.8128	.8270	
0.10	.4257	.4682	.5076	.5446	.5791	.6111	.6407	.6680	.6931	.7163	.7376	.7572	.7751	.7917	.8069	.8208	
0.15	.4232	.4656	.5039	.5394	.5732	.6056	.6346	.6613	.6859	.7086	.7294	.7485	.7669	.7822	.7970	.8106	
0.20	.4197	.4620	.4988	.5344	.5675	.5988	.6262	.6521	.6760	.6979	.7180	.7365	.7534	.7690	.7833	.7965	
0.25	.4153	.4571	.4929	.5270	.5589	.5884	.6156	.6404	.6634	.6844	.7037	.7214	.7376	.7525	.7661	.7787	
0.30	.4099	.4516	.4864	.5198	.5507	.5799	.6069	.6326	.6564	.6784	.6966	.7137	.7297	.7456	.7605	.7737	
0.35	.4037	.4454	.4794	.5126	.5435	.5725	.5992	.6248	.6484	.6701	.6899	.7076	.7242	.7397	.7542	.7676	
0.40	.3966	.4381	.4718	.5048	.5355	.5648	.5918	.6174	.6416	.6636	.6825	.6995	.7159	.7311	.7452	.7586	
0.45	.3888	.4299	.4632	.4956	.5258	.5548	.5818	.6074	.6316	.6529	.6691	.6848	.6997	.7139	.7273	.7400	
0.50	.3802	.4209	.4540	.4868	.5180	.5484	.5769	.6025	.6262	.6479	.6651	.6809	.6954	.7094	.7228	.7357	
0.55	.3709	.4114	.4444	.4768	.5078	.5374	.5656	.5914	.6151	.6368	.6537	.6692	.6834	.6965	.7091	.7213	
0.60	.3611	.4014	.4342	.4659	.4964	.5256	.5534	.5790	.6026	.6242	.6409	.6562	.6702	.6831	.6951	.7068	
0.65	.3507	.3907	.4232	.4546	.4848	.5137	.5412	.5673	.5919	.6141	.6307	.6458	.6595	.6721	.6840	.6954	
0.70	.3398	.3795	.4117	.4425	.4724	.5012	.5288	.5551	.5792	.6010	.6175	.6326	.6463	.6588	.6709	.6820	
0.75	.3285	.3679	.4000	.4306	.4603	.4889	.5163	.5424	.5673	.5909	.6132	.6343	.6539	.6719	.6886	.7043	
0.80	.3169	.3560	.3878	.4181	.4476	.4762	.5038	.5303	.5557	.5799	.6019	.6228	.6426	.6613	.6781	.6939	
0.85	.3051	.3438	.3753	.4053	.4346	.4631	.4906	.5170	.5423	.5664	.5894	.6113	.6321	.6518	.6696	.6864	
0.90	.2930	.3314	.3626	.3922	.4211	.4491	.4761	.5020	.5268	.5504	.5730	.5945	.6150	.6344	.6527	.6700	
0.95	.2808	.3188	.3496	.3790	.4078	.4359	.4632	.4894	.5145	.5384	.5611	.5826	.6030	.6223	.6405	.6578	
1.00	.2683	.3059	.3363	.3651	.3932	.4204	.4466	.4717	.4957	.5185	.5401	.5606	.5800	.5983	.6155	.6318	
1.05	.2562	.2934	.3234	.3516	.3789	.4051	.4302	.4542	.4771	.4989	.5196	.5392	.5577	.5751	.5914	.6068	
1.10	.2440	.2808	.3105	.3385	.3656	.3916	.4165	.4403	.4631	.4848	.5054	.5249	.5433	.5606	.5768	.5921	
1.15	.2318	.2682	.2975	.3252	.3518	.3773	.4017	.4250	.4472	.4684	.4885	.5075	.5254	.5422	.5580	.5729	
1.20	.2199	.2558	.2847	.3120	.3381	.3630	.3867	.4093	.4308	.4512	.4705	.4887	.5058	.5219	.5370	.5512	
1.25	.2081	.2436	.2721	.2991	.3248	.3492	.3724	.3944	.4153	.4351	.4538	.4714	.4880	.5036	.5183	.5320	
1.30	.1965	.2316	.2597	.2862	.3112	.3349	.3573	.3784	.3982	.4169	.4345	.4510	.4674	.4827	.4971	.5106	
1.35	.1853	.2199	.2475	.2736	.2981	.3211	.3427	.3630	.3820	.3997	.4172	.4336	.4499	.4651	.4794	.4928	
1.40	.1743	.2084	.2355	.2611	.2851	.3076	.3287	.3484	.3667	.3837	.3994	.4148	.4299	.4440	.4571	.4694	
1.45	.1637	.1973	.2239	.2491	.2727	.2948	.3154	.3346	.3524	.3689	.3842	.3983	.4121	.4256	.4387	.4512	
1.50	.1535	.1866	.2127	.2374	.2606	.2822	.3024	.3212	.3387	.3551	.3704	.3846	.3977	.4107	.4234	.4357	
1.55	.1436	.1762	.2011	.2246	.2466	.2671	.2861	.3036	.3197	.3345	.3481	.3606	.3729	.3841	.3951	.4058	
1.60	.1341	.1662	.1905	.2132	.2349	.2554	.2746	.2924	.3089	.3241	.3380	.3508	.3625	.3732	.3837	.3940	
1.65	.1251	.1567	.1805	.2028	.2240	.2440	.2628	.2802	.2963	.3111	.3248	.3375	.3492	.3599	.3704	.3807	
1.70	.1165	.1476	.1709	.1926	.2132	.2327	.2511	.2682	.2840	.2986	.3122	.3248	.3365	.3472	.3569	.3665	
1.75	.1084	.1390	.1618	.1830	.2034	.2229	.2414	.2581	.2737	.2882	.2997	.3113	.3220	.3318	.3407	.3493	
1.80	.1004	.1305	.1528	.1740	.1942	.2135	.2318	.2481	.2633	.2774	.2899	.3016	.3124	.3223	.3313	.3394	
1.85	.0926	.1222	.1440	.1648	.1850	.2042	.2224	.2385	.2535	.2674	.2799	.2916	.3024	.3123	.3213	.3294	
1.90	.0851	.1142	.1356	.1559	.1756	.1944	.2122	.2289	.2436	.2571	.2696	.2812	.2919	.3018	.3109	.3191	
1.95	.0778	.1064	.1274	.1473	.1666	.1850	.2024	.2187	.2339	.2479	.2604	.2715	.2814	.2901	.2980	.3051	
2.00	.0704	.0986	.1191	.1384	.1566	.1738	.1900	.2051	.2191	.2319	.2444	.2556	.2655	.2742	.2817	.2883	
2.05	.0632	.0910	.1111	.1301	.1478	.1645	.1801	.1946	.2080	.2203	.2316	.2418	.2509	.2589	.2658	.2716	
2.10	.0562	.0836	.1033	.1221	.1394	.1556	.1707	.1845	.1971	.2086	.2190	.2282	.2363	.2434	.2494	.2543	
2.15	.0494	.0764	.0956	.1143	.1313	.1472	.1619	.1751	.1868	.1972	.2064	.2145	.2216	.2276	.2325	.2364	
2.20	.0428	.0694	.0882	.1066	.1233	.1389	.1531	.1658	.1771	.1871	.1958	.2032	.2095	.2147	.2190	.2223	
2.25	.0364	.0626	.0811	.0990	.1159	.1314	.1454	.1579	.1689	.1784	.1865	.1934	.1992	.2040	.2078	.2115	
2.30	.0302	.0560	.0742	.0916	.1080	.1232	.1371	.1496	.1606	.1701	.1781	.1849	.1906	.1953	.1990	.2026	
2.35	.0242	.0495	.0673	.0842	.1001	.1148	.1283	.1406	.1516	.1611	.1691	.1758	.1814	.1860	.1896	.1931	
2.40	.0186	.0435	.0611	.0776	.0932	.1077	.1210	.1331	.1440	.1536	.1617	.1683	.1735	.1779	.1813	.1846	
2.45	.0132	.0377	.0550	.0714	.0866	.1006	.1134	.1251	.1357	.1443	.1518	.1574	.1621	.1658	.1694	.1729	
2.50	.0080	.0320	.0491	.0651	.0800	.0936	.1060	.1171	.1268	.1343	.1407	.1461	.1506	.1542	.1569	.1594	
2.55	.0030	.0266	.0434	.0590	.0733	.0863	.0980	.1084	.1174	.1249	.1309	.1354	.1391	.1421	.1445	.1464	
2.60	.0000	.0215	.0382	.0534	.0671	.0794	.0902	.0996	.1076	.1142	.1196	.1237	.1264	.1287	.1306	.1321	

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A5

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 50% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
2.50	.0309	.0275	.0248	.0227	.0211	.0198	.0188	.0179	.0173	.0167	.0162	.0159	.0155	.0152	.0150	.0148
2.60	.0258	.0227	.0204	.0187	.0173	.0162	.0154	.0147	.0142	.0137	.0133	.0130	.0128	.0125	.0123	.0121
2.70	.0214	.0186	.0168	.0153	.0142	.0133	.0127	.0121	.0117	.0113	.0110	.0107	.0105	.0103	.0102	.0100
2.80	.0178	.0153	.0139	.0126	.0117	.0110	.0104	.0100	.0096	.0093	.0091	.0089	.0087	.0085	.0084	.0083
2.90	.0147	.0128	.0114	.0104	.0096	.0091	.0086	.0082	.0079	.0077	.0075	.0073	.0072	.0071	.0070	.0069
3.00	.0122	.0106	.0094	.0086	.0080	.0075	.0071	.0068	.0066	.0064	.0062	.0061	.0060	.0059	.0058	.0057
3.10	.0101	.0088	.0078	.0071	.0066	.0062	.0059	.0057	.0055	.0053	.0052	.0051	.0050	.0049	.0048	.0048
3.20	.0084	.0072	.0065	.0059	.0055	.0052	.0049	.0047	.0046	.0044	.0043	.0042	.0041	.0041	.0040	.0040
3.30	.0069	.0060	.0054	.0049	.0045	.0043	.0041	.0039	.0038	.0037	.0036	.0035	.0034	.0034	.0033	.0033
3.40	.0058	.0050	.0045	.0041	.0038	.0036	.0034	.0033	.0032	.0031	.0030	.0030	.0029	.0029	.0028	.0028
3.50	.0048	.0041	.0037	.0034	.0032	.0030	.0029	.0028	.0027	.0026	.0025	.0025	.0024	.0024	.0024	.0023
3.60	.0040	.0035	.0031	.0028	.0027	.0025	.0024	.0023	.0022	.0022	.0021	.0021	.0021	.0020	.0020	.0020
3.70	.0033	.0029	.0026	.0024	.0022	.0021	.0020	.0019	.0019	.0018	.0018	.0018	.0017	.0017	.0017	.0017
3.80	.0028	.0024	.0022	.0020	.0019	.0018	.0017	.0016	.0016	.0016	.0015	.0015	.0015	.0014	.0014	.0014
3.90	.0023	.0020	.0018	.0017	.0016	.0015	.0014	.0014	.0013	.0013	.0013	.0013	.0012	.0012	.0012	.0012
4.00	.0019	.0017	.0015	.0014	.0013	.0012	.0012	.0011	.0011	.0011	.0011	.0011	.0011	.0010	.0010	.0010
4.10	.0016	.0014	.0013	.0012	.0011	.0011	.0010	.0010	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009
4.20	.0014	.0012	.0011	.0010	.0010	.0009	.0009	.0009	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0007
4.30	.0012	.0010	.0009	.0009	.0008	.0008	.0007	.0007	.0007	.0007	.0007	.0007	.0007	.0006	.0006	.0006
4.40	.0010	.0009	.0008	.0007	.0007	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0006	.0005	.0005	.0005
4.50	.0008	.0007	.0007	.0006	.0006	.0006	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005	.0005
4.60	.0007	.0006	.0006	.0005	.0005	.0005	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004
4.70	.0006	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0004	.0003	.0003
4.80	.0005	.0005	.0004	.0004	.0004	.0004	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003
4.90	.0004	.0004	.0004	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003
5.00	.0004	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.10	.0003	.0003	.0003	.0003	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.20	.0003	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.30	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.40	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.50	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.60	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.70	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.80	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
5.90	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
6.00	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
6.10	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
6.20	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
6.30	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
6.40	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
6.50	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
6.60	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



A5

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 50% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60
0.00	8291	8541	8753	8931	9083	9211	9320	9412	9491	9559	9616	9666	9708	9745	9777	9804
0.05	8270	8519	8730	8908	9059	9187	9296	9388	9468	9535	9594	9644	9687	9724	9756	9785
0.10	8208	8454	8662	8838	8988	9115	9224	9317	9397	9466	9525	9577	9622	9651	9695	9725
0.15	8106	8346	8550	8723	8870	8997	9105	9198	9279	9349	9410	9463	9510	9551	9588	9620
0.20	7965	8197	8395	8563	8707	8831	8938	9031	9112	9182	9245	9300	9348	9392	9431	9465
0.25	7787	8009	8199	8368	8508	8629	8724	8815	8895	8966	9029	9084	9134	9179	9219	9256
0.30	7575	7785	7964	8118	8250	8365	8465	8553	8631	8700	8762	8817	8866	8911	8952	8989
0.35	7332	7527	7694	7838	7961	8069	8164	8247	8321	8387	8445	8498	8546	8589	8628	8664
0.40	7060	7240	7393	7525	7638	7737	7824	7901	7969	8030	8084	8133	8177	8217	8253	8286
0.45	6765	6927	7065	7183	7285	7374	7452	7521	7581	7635	7684	7727	7766	7802	7834	7863
0.50	6431	6594	6715	6819	6908	6986	7053	7113	7165	7211	7253	7290	7323	7353	7380	7404
0.55	6321	6456	6571	6668	6752	6825	6888	6944	6992	7036	7074	7108	7139	7166	7191	7214
0.60	6188	6316	6424	6515	6594	6661	6720	6772	6817	6857	6892	6924	6952	6977	6999	7020
0.65	6034	6154	6255	6340	6413	6476	6530	6578	6620	6657	6690	6723	6752	6778	6806	6824
0.70	5918	6030	6124	6203	6271	6329	6379	6422	6460	6493	6523	6548	6571	6592	6610	6627
0.75	5781	5885	5972	6045	6107	6161	6206	6245	6280	6310	6336	6359	6380	6398	6414	6429
0.80	5643	5739	5820	5887	5943	5992	6033	6068	6099	6126	6149	6169	6187	6203	6218	6230
0.85	5504	5593	5666	5727	5779	5822	5859	5891	5918	5942	5962	5980	5996	6010	6022	6033
0.90	5364	5446	5513	5568	5614	5653	5686	5714	5738	5758	5776	5791	5805	5817	5827	5836
0.95	5225	5299	5360	5409	5450	5484	5513	5537	5558	5576	5591	5604	5615	5625	5634	5641
1.00	5085	5152	5207	5251	5287	5317	5342	5362	5380	5395	5407	5418	5428	5436	5443	5449
1.05	4946	5006	5054	5093	5124	5150	5171	5189	5203	5216	5226	5235	5242	5249	5254	5259
1.10	4808	4861	4903	4937	4964	4985	5003	5017	5029	5039	5047	5054	5060	5065	5069	5072
1.15	4670	4717	4753	4782	4804	4822	4837	4848	4857	4865	4871	4876	4880	4884	4888	4890
1.20	4533	4574	4605	4629	4647	4661	4673	4681	4688	4694	4698	4701	4704	4706	4708	4709
1.25	4398	4432	4458	4478	4492	4503	4511	4518	4522	4526	4528	4530	4532	4534	4535	4536
1.30	4264	4293	4314	4329	4340	4347	4353	4357	4360	4361	4362	4363	4363	4362	4362	4362
1.35	4132	4155	4171	4182	4190	4195	4198	4200	4200	4200	4200	4200	4200	4200	4200	4200
1.40	4001	4019	4031	4038	4043	4045	4046	4046	4045	4043	4042	4040	4038	4036	4034	4032
1.45	3872	3885	3893	3897	3899	3899	3897	3893	3889	3886	3883	3880	3877	3874	3871	3867
1.50	3746	3754	3758	3759	3758	3756	3753	3749	3745	3741	3738	3734	3730	3727	3724	3721
1.55	3621	3626	3626	3624	3621	3616	3611	3606	3601	3596	3592	3587	3583	3579	3576	3572
1.60	3499	3500	3497	3492	3487	3480	3474	3468	3462	3456	3450	3445	3441	3436	3432	3429
1.65	3380	3376	3371	3364	3356	3346	3340	3333	3326	3320	3313	3308	3303	3298	3294	3290
1.70	3262	3256	3248	3238	3229	3220	3211	3202	3193	3187	3181	3175	3169	3164	3160	3155
1.75	3148	3138	3126	3116	3105	3095	3085	3076	3067	3060	3053	3046	3040	3035	3030	3026
1.80	3036	3024	3011	2998	2985	2974	2963	2953	2944	2936	2929	2922	2916	2910	2905	2901
1.85	2927	2912	2897	2883	2869	2857	2845	2835	2825	2817	2809	2802	2796	2790	2785	2780
1.90	2821	2804	2787	2771	2757	2743	2731	2720	2710	2702	2694	2687	2680	2674	2669	2664
1.95	2717	2698	2680	2663	2648	2634	2621	2610	2600	2591	2582	2575	2569	2563	2557	2552
2.00	2616	2596	2576	2558	2542	2528	2515	2503	2493	2484	2475	2468	2461	2455	2450	2445
2.05	2519	2496	2476	2457	2440	2425	2412	2400	2390	2381	2372	2365	2358	2352	2347	2342

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

A5

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 50% WR

WEAPON RADIUS/CEP<sub>a</sub> (WR/CEP<sub>a</sub>)

	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60
1.14	.2433	.2400	.2378	.2359	.2342	.2327	.2313	.2301	.2291	.2281	.2273	.2266	.2259	.2253	.2248	.2243
1.16	.2331	.2307	.2284	.2265	.2247	.2232	.2218	.2206	.2195	.2186	.2178	.2170	.2164	.2158	.2152	.2148
1.18	.2242	.2216	.2193	.2173	.2155	.2140	.2126	.2114	.2104	.2094	.2086	.2079	.2072	.2066	.2061	.2056
1.20	.2155	.2129	.2106	.2085	.2067	.2052	.2038	.2026	.2016	.2006	.1998	.1991	.1984	.1979	.1973	.1969
1.22	.2072	.2045	.2021	.2000	.1982	.1967	.1953	.1941	.1931	.1922	.1914	.1906	.1900	.1894	.1889	.1885
1.24	.1991	.1963	.1939	.1919	.1901	.1885	.1872	.1860	.1850	.1841	.1833	.1826	.1819	.1814	.1809	.1804
1.26	.1912	.1883	.1861	.1840	.1822	.1807	.1793	.1782	.1772	.1763	.1755	.1748	.1742	.1736	.1731	.1727
1.28	.1837	.1809	.1785	.1764	.1746	.1731	.1718	.1707	.1697	.1688	.1680	.1673	.1667	.1662	.1657	.1653
1.30	.1764	.1736	.1712	.1691	.1674	.1659	.1646	.1635	.1625	.1616	.1609	.1602	.1596	.1591	.1586	.1582
1.32	.1693	.1665	.1641	.1621	.1604	.1589	.1576	.1565	.1556	.1548	.1540	.1534	.1528	.1523	.1518	.1514
1.34	.1625	.1597	.1574	.1554	.1537	.1522	.1510	.1499	.1490	.1482	.1475	.1468	.1463	.1458	.1453	.1449
1.36	.1560	.1532	.1509	.1489	.1473	.1458	.1446	.1436	.1427	.1419	.1412	.1406	.1400	.1395	.1391	.1387
1.38	.1497	.1469	.1446	.1427	.1411	.1397	.1385	.1375	.1366	.1358	.1352	.1346	.1340	.1336	.1331	.1328
1.40	.1436	.1409	.1386	.1368	.1352	.1338	.1326	.1317	.1308	.1300	.1294	.1288	.1283	.1278	.1274	.1271
1.42	.1377	.1351	.1329	.1310	.1295	.1282	.1270	.1261	.1252	.1243	.1237	.1231	.1226	.1224	.1220	.1216
1.44	.1321	.1295	.1274	.1255	.1240	.1227	.1217	.1207	.1199	.1192	.1186	.1180	.1176	.1171	.1168	.1164
1.46	.1267	.1242	.1220	.1203	.1188	.1176	.1165	.1156	.1148	.1141	.1135	.1130	.1125	.1121	.1118	.1114
1.48	.1215	.1190	.1170	.1152	.1138	.1126	.1116	.1107	.1099	.1093	.1087	.1082	.1077	.1073	.1070	.1067
1.50	.1165	.1141	.1121	.1104	.1090	.1078	.1068	.1060	.1053	.1047	.1041	.1036	.1031	.1028	.1024	.1021
1.60	.0944	.0923	.0905	.0891	.0879	.0869	.0861	.0854	.0848	.0842	.0838	.0834	.0830	.0827	.0824	.0822
1.70	.0764	.0746	.0731	.0719	.0710	.0701	.0694	.0688	.0683	.0679	.0675	.0672	.0669	.0666	.0664	.0662
1.80	.0619	.0604	.0591	.0581	.0573	.0567	.0561	.0556	.0552	.0548	.0545	.0543	.0540	.0538	.0536	.0535
1.90	.0501	.0489	.0479	.0471	.0464	.0459	.0454	.0450	.0447	.0444	.0441	.0439	.0437	.0436	.0434	.0433
2.00	.0407	.0397	.0388	.0382	.0377	.0372	.0368	.0365	.0363	.0360	.0358	.0356	.0355	.0354	.0352	.0351
2.10	.0331	.0322	.0316	.0310	.0306	.0303	.0300	.0297	.0295	.0293	.0291	.0290	.0289	.0288	.0287	.0286
2.20	.0269	.0263	.0257	.0253	.0250	.0247	.0244	.0242	.0240	.0239	.0238	.0236	.0235	.0235	.0234	.0233
2.30	.0220	.0215	.0210	.0207	.0204	.0202	.0200	.0198	.0197	.0195	.0194	.0193	.0192	.0192	.0191	.0191
2.40	.0180	.0176	.0172	.0169	.0167	.0165	.0164	.0162	.0161	.0160	.0159	.0159	.0158	.0157	.0157	.0156
2.50	.0148	.0144	.0141	.0139	.0137	.0136	.0134	.0133	.0132	.0132	.0131	.0130	.0130	.0129	.0129	.0129
2.60	.0121	.0119	.0116	.0115	.0113	.0112	.0111	.0110	.0109	.0109	.0108	.0108	.0107	.0107	.0106	.0106
2.70	.0100	.0098	.0096	.0095	.0093	.0092	.0092	.0091	.0090	.0090	.0089	.0089	.0089	.0088	.0088	.0088
2.80	.0083	.0081	.0079	.0078	.0077	.0076	.0076	.0075	.0075	.0074	.0074	.0074	.0073	.0073	.0073	.0073
2.90	.0069	.0067	.0066	.0065	.0064	.0064	.0063	.0063	.0062	.0062	.0061	.0061	.0061	.0061	.0061	.0060
3.00	.0057	.0056	.0055	.0054	.0053	.0053	.0052	.0052	.0052	.0051	.0051	.0051	.0051	.0051	.0051	.0050
3.10	.0048	.0047	.0046	.0045	.0045	.0044	.0044	.0043	.0043	.0043	.0043	.0043	.0042	.0042	.0042	.0042
3.20	.0040	.0039	.0038	.0038	.0037	.0037	.0037	.0036	.0036	.0036	.0036	.0036	.0036	.0035	.0035	.0035
3.30	.0033	.0033	.0032	.0032	.0031	.0031	.0031	.0031	.0030	.0030	.0030	.0030	.0030	.0030	.0030	.0030
3.40	.0028	.0027	.0027	.0027	.0026	.0026	.0026	.0026	.0026	.0025	.0025	.0025	.0025	.0025	.0025	.0025
3.50	.0023	.0023	.0023	.0022	.0022	.0022	.0022	.0022	.0022	.0021	.0021	.0021	.0021	.0021	.0021	.0021
3.60	.0020	.0019	.0019	.0019	.0019	.0019	.0018	.0018	.0018	.0018	.0018	.0018	.0018	.0018	.0018	.0018
3.70	.0017	.0016	.0016	.0016	.0016	.0016	.0016	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015	.0015
3.80	.0014	.0014	.0014	.0014	.0014	.0014	.0014	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013	.0013
3.90	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010

C

OFFSET DISTANCE/WEAPON RADIUS (D/WR)

### OFFSET CIRCLE PROBABILITIES

OFFSET DISTANCE/WEAPON RADIUS (D/WR)



A5

# OFFSET CIRCLE PROBABILITIES DISTANCE DAMAGE SIGMA ( $\sigma_D$ ) = 50% WR

		WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )															
		6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50
1.14	.2234	.2226	.2219	.2214	.2214	.2209	.2205	.2202	.2199	.2197	.2195	.2193	.2192	.2190	.2189	.2188	.2187
1.16	.2139	.2131	.2124	.2119	.2114	.2114	.2110	.2107	.2105	.2102	.2100	.2099	.2097	.2096	.2095	.2094	.2093
1.18	.2048	.2040	.2033	.2028	.2023	.2023	.2020	.2017	.2014	.2012	.2010	.2008	.2007	.2005	.2004	.2003	.2002
1.20	.1961	.1953	.1946	.1941	.1936	.1936	.1933	.1930	.1927	.1925	.1923	.1921	.1920	.1919	.1918	.1917	.1916
1.22	.1877	.1869	.1862	.1857	.1853	.1853	.1849	.1847	.1844	.1842	.1840	.1838	.1837	.1836	.1835	.1834	.1833
1.24	.1796	.1789	.1782	.1777	.1773	.1773	.1770	.1767	.1764	.1762	.1760	.1759	.1758	.1756	.1755	.1754	.1753
1.26	.1719	.1712	.1706	.1701	.1697	.1697	.1693	.1691	.1688	.1686	.1684	.1683	.1681	.1680	.1679	.1678	.1678
1.28	.1646	.1638	.1632	.1627	.1624	.1624	.1620	.1618	.1615	.1613	.1612	.1610	.1609	.1608	.1607	.1606	.1605
1.30	.1573	.1568	.1562	.1557	.1553	.1553	.1550	.1548	.1546	.1543	.1542	.1540	.1539	.1538	.1537	.1536	.1535
1.32	.1507	.1500	.1495	.1490	.1486	.1486	.1483	.1481	.1479	.1477	.1475	.1474	.1473	.1471	.1471	.1470	.1469
1.34	.1443	.1436	.1430	.1426	.1422	.1422	.1419	.1417	.1415	.1413	.1411	.1410	.1409	.1408	.1407	.1406	.1405
1.36	.1381	.1374	.1369	.1365	.1361	.1361	.1358	.1356	.1354	.1352	.1350	.1349	.1348	.1347	.1346	.1345	.1345
1.38	.1321	.1315	.1310	.1306	.1302	.1302	.1299	.1297	.1295	.1294	.1292	.1291	.1290	.1289	.1288	.1287	.1287
1.40	.1263	.1258	.1254	.1250	.1246	.1246	.1244	.1241	.1239	.1238	.1236	.1235	.1234	.1233	.1232	.1232	.1231
1.42	.1210	.1204	.1200	.1196	.1193	.1193	.1190	.1188	.1186	.1185	.1183	.1182	.1181	.1180	.1179	.1179	.1178
1.44	.1159	.1153	.1148	.1144	.1141	.1141	.1138	.1137	.1135	.1134	.1132	.1131	.1130	.1129	.1128	.1128	.1127
1.46	.1109	.1103	.1099	.1095	.1092	.1092	.1089	.1088	.1086	.1085	.1084	.1082	.1081	.1080	.1080	.1079	.1079
1.48	.1061	.1056	.1052	.1048	.1046	.1046	.1043	.1041	.1040	.1038	.1037	.1036	.1035	.1034	.1034	.1033	.1032
1.50	.1016	.1011	.1007	.1003	.1001	.1001	.0999	.0997	.0995	.0994	.0993	.0992	.0991	.0990	.0989	.0989	.0988
1.52	.0972	.0967	.0963	.0959	.0957	.0957	.0955	.0953	.0951	.0950	.0949	.0948	.0947	.0946	.0945	.0945	.0944
1.54	.0929	.0924	.0920	.0916	.0914	.0914	.0912	.0910	.0908	.0907	.0906	.0905	.0904	.0903	.0902	.0901	.0900
1.56	.0887	.0882	.0878	.0874	.0871	.0871	.0869	.0867	.0865	.0864	.0863	.0862	.0861	.0860	.0859	.0858	.0857
1.58	.0845	.0840	.0836	.0832	.0829	.0829	.0827	.0825	.0823	.0822	.0821	.0820	.0819	.0818	.0817	.0816	.0815
1.60	.0803	.0798	.0794	.0790	.0787	.0787	.0785	.0783	.0781	.0780	.0779	.0778	.0777	.0776	.0775	.0774	.0773
1.62	.0761	.0756	.0752	.0748	.0745	.0745	.0743	.0741	.0739	.0738	.0737	.0736	.0735	.0734	.0733	.0732	.0731
1.64	.0719	.0714	.0710	.0706	.0703	.0703	.0701	.0699	.0697	.0696	.0695	.0694	.0693	.0692	.0691	.0690	.0689
1.66	.0677	.0672	.0668	.0664	.0661	.0661	.0659	.0657	.0655	.0654	.0653	.0652	.0651	.0650	.0649	.0648	.0647
1.68	.0635	.0630	.0626	.0622	.0619	.0619	.0617	.0615	.0613	.0612	.0611	.0610	.0609	.0608	.0607	.0606	.0605
1.70	.0593	.0588	.0584	.0580	.0577	.0577	.0575	.0573	.0571	.0570	.0569	.0568	.0567	.0566	.0565	.0564	.0563
1.72	.0551	.0546	.0542	.0538	.0535	.0535	.0533	.0531	.0529	.0528	.0527	.0526	.0525	.0524	.0523	.0522	.0521
1.74	.0509	.0504	.0500	.0496	.0493	.0493	.0491	.0489	.0487	.0486	.0485	.0484	.0483	.0482	.0481	.0480	.0479
1.76	.0467	.0462	.0458	.0454	.0451	.0451	.0449	.0447	.0445	.0444	.0443	.0442	.0441	.0440	.0439	.0438	.0437
1.78	.0425	.0420	.0416	.0412	.0409	.0409	.0407	.0405	.0403	.0402	.0401	.0400	.0399	.0398	.0397	.0396	.0395
1.80	.0383	.0378	.0374	.0370	.0367	.0367	.0365	.0363	.0361	.0360	.0359	.0358	.0357	.0356	.0355	.0354	.0353
1.82	.0341	.0336	.0332	.0328	.0325	.0325	.0323	.0321	.0319	.0318	.0317	.0316	.0315	.0314	.0313	.0312	.0311
1.84	.0299	.0294	.0290	.0286	.0283	.0283	.0281	.0279	.0277	.0276	.0275	.0274	.0273	.0272	.0271	.0270	.0269
1.86	.0257	.0252	.0248	.0244	.0241	.0241	.0239	.0237	.0235	.0234	.0233	.0232	.0231	.0230	.0229	.0228	.0227
1.88	.0215	.0210	.0206	.0202	.0199	.0199	.0197	.0195	.0193	.0192	.0191	.0190	.0189	.0188	.0187	.0186	.0185
1.90	.0173	.0168	.0164	.0160	.0157	.0157	.0155	.0153	.0151	.0150	.0149	.0148	.0147	.0146	.0145	.0144	.0143
1.92	.0131	.0126	.0122	.0118	.0115	.0115	.0113	.0111	.0109	.0108	.0107	.0106	.0105	.0104	.0103	.0102	.0101
1.94	.0089	.0084	.0080	.0076	.0073	.0073	.0071	.0069	.0067	.0066	.0065	.0064	.0063	.0062	.0061	.0060	.0059
1.96	.0047	.0042	.0038	.0034	.0031	.0031	.0029	.0027	.0025	.0024	.0023	.0022	.0021	.0020	.0019	.0018	.0017
1.98	.0005	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000



A5

OFFSET CIRCLE PROBABILITIES  
DISTANCE DAMAGE SIGMA ( $\sigma_d$ ) = 50% WR

OFFSET DISTANCE/WEAPON RADIUS (D/WR)	WEAPON RADIUS/CEP <sub>a</sub> (WR/CEP <sub>a</sub> )															P <sub>d</sub>
	13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50	20.00	
0.00	.9996	.9997	.9997	.9998	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
0.05	.9992	.9994	.9994	.9995	.9996	.9997	.9997	.9998	.9998	.9998	.9998	.9998	.9999	.9999	.9999	.9999
0.10	.9977	.9979	.9981	.9983	.9984	.9986	.9987	.9988	.9989	.9990	.9990	.9991	.9991	.9992	.9992	.9993
0.15	.9935	.9939	.9942	.9946	.9949	.9951	.9954	.9956	.9958	.9960	.9961	.9963	.9964	.9965	.9966	.9967
0.20	.9845	.9851	.9856	.9862	.9866	.9870	.9874	.9877	.9880	.9883	.9886	.9888	.9891	.9893	.9895	.9897
0.25	.9684	.9692	.9699	.9706	.9711	.9717	.9721	.9726	.9730	.9734	.9737	.9740	.9743	.9746	.9748	.9750
0.30	.9433	.9447	.9454	.9462	.9468	.9474	.9479	.9484	.9488	.9492	.9496	.9499	.9503	.9505	.9508	.9510
0.35	.9163	.9172	.9179	.9186	.9192	.9198	.9203	.9208	.9212	.9216	.9219	.9222	.9225	.9227	.9229	.9231
0.40	.8668	.8695	.8702	.8708	.8714	.8719	.8724	.8727	.8731	.8735	.8738	.8741	.8744	.8746	.8748	.8750
0.45	.8208	.8215	.8220	.8225	.8230	.8234	.8238	.8241	.8244	.8247	.8250	.8252	.8254	.8256	.8258	.8260
0.50	.7685	.7689	.7694	.7698	.7701	.7704	.7707	.7710	.7712	.7715	.7717	.7718	.7720	.7722	.7723	.7725
0.55	.7136	.7140	.7143	.7146	.7148	.7151	.7153	.7155	.7156	.7158	.7159	.7161	.7162	.7163	.7164	.7165
0.60	.6581	.6583	.6585	.6587	.6589	.6591	.6592	.6593	.6594	.6596	.6596	.6597	.6598	.6599	.6600	.6601
0.65	.6033	.6034	.6036	.6037	.6038	.6039	.6040	.6041	.6042	.6042	.6043	.6043	.6044	.6044	.6044	.6045
0.70	.5503	.5504	.5505	.5506	.5507	.5508	.5509	.5509	.5510	.5510	.5510	.5511	.5511	.5511	.5512	.5512
0.75	.4999	.4999	.4999	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000
0.80	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526	.4526
0.85	.4086	.4086	.4085	.4085	.4084	.4084	.4083	.4083	.4083	.4082	.4082	.4082	.4082	.4081	.4081	.4077
0.90	.3681	.3679	.3679	.3678	.3678	.3677	.3677	.3677	.3676	.3676	.3676	.3675	.3675	.3675	.3674	.3670
0.95	.3319	.3309	.3308	.3307	.3307	.3306	.3306	.3305	.3305	.3304	.3304	.3303	.3303	.3303	.3303	.3297
1.00	.2972	.2971	.2970	.2969	.2969	.2968	.2968	.2967	.2967	.2966	.2966	.2965	.2965	.2965	.2964	.2959
1.05	.2666	.2665	.2664	.2663	.2663	.2662	.2661	.2661	.2660	.2660	.2659	.2659	.2659	.2658	.2658	.2652
1.10	.2389	.2388	.2388	.2387	.2386	.2385	.2384	.2384	.2383	.2383	.2383	.2382	.2382	.2382	.2376	.2370
1.15	.2140	.2139	.2139	.2138	.2137	.2137	.2136	.2135	.2135	.2135	.2134	.2134	.2134	.2133	.2132	.2127
1.20	.1917	.1916	.1915	.1914	.1914	.1913	.1912	.1912	.1912	.1911	.1911	.1910	.1910	.1910	.1909	.1904
1.25	.1716	.1715	.1714	.1714	.1713	.1713	.1712	.1712	.1712	.1711	.1710	.1710	.1710	.1710	.1709	.1704
1.30	.1536	.1535	.1535	.1534	.1534	.1533	.1533	.1532	.1532	.1531	.1531	.1531	.1531	.1530	.1530	.1526
1.35	.1375	.1375	.1374	.1373	.1373	.1372	.1372	.1371	.1371	.1371	.1370	.1370	.1370	.1370	.1370	.1366
1.40	.1232	.1231	.1230	.1230	.1229	.1229	.1229	.1228	.1228	.1228	.1227	.1227	.1227	.1227	.1227	.1223
1.45	.1103	.1103	.1102	.1102	.1101	.1101	.1101	.1100	.1100	.1100	.1099	.1099	.1099	.1099	.1099	.1095
1.50	.0989	.0988	.0988	.0987	.0987	.0986	.0986	.0986	.0985	.0985	.0985	.0985	.0985	.0985	.0984	.0981
1.60	.0795	.0794	.0794	.0794	.0793	.0793	.0793	.0793	.0792	.0792	.0792	.0792	.0792	.0791	.0791	.0789
1.70	.0640	.0640	.0640	.0639	.0639	.0639	.0639	.0638	.0638	.0638	.0638	.0638	.0638	.0638	.0638	.0635
1.80	.0517	.0517	.0517	.0516	.0516	.0516	.0516	.0516	.0515	.0515	.0515	.0515	.0515	.0515	.0515	.0513
1.90	.0419	.0418	.0418	.0418	.0418	.0418	.0418	.0417	.0417	.0417	.0417	.0417	.0417	.0417	.0417	.0415
2.00	.0340	.0340	.0339	.0339	.0339	.0339	.0339	.0339	.0339	.0339	.0339	.0338	.0338	.0338	.0338	.0337
2.20	.0226	.0226	.0226	.0225	.0225	.0225	.0225	.0225	.0225	.0225	.0225	.0225	.0225	.0225	.0225	.0224
2.40	.0152	.0152	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151
2.60	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0103	.0102
2.80	.0071	.0071	.0071	.0071	.0071	.0071	.0071	.0071	.0071	.0070	.0070	.0070	.0070	.0070	.0070	.0070
3.00	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049	.0049
3.20	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034	.0034
∞	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

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